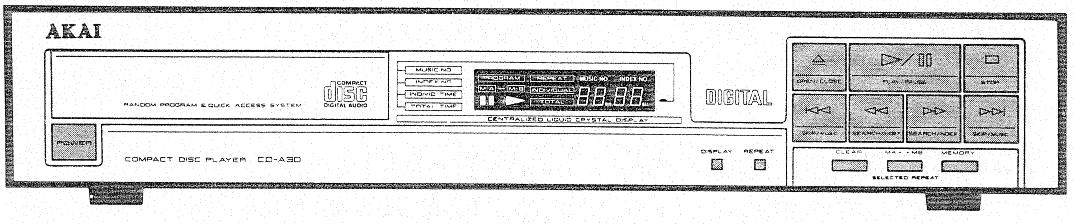
AKAI SERVICE MANUAL


AKAI
RANDOM PROGRAM & QUICK ACCESS SYSTEM
COMPACT disc DIGITAL AUDIO
MUSIC NO.
INDEX NO.
INDIVID. TIME
TOTAL TIME
PROGRAM
REPEAT
MUSIC NO.
INDEX NO.
M-A
M-B
INDIVIDUAL
TOTAL
88.88
CENTRALIZED LIQUID CRYSTAL DISPLAY
DIGITAL
OPEN/CLOSE
PLAY/PAUSE
STOP
SKIP/MUSIC
SEARCH/INDEX
SEARCH/INDEX
SKIP/MUSIC
POWER
COMPACT DISC PLAYER CD-A30
DISPLAY
REPEAT
CLEAR
MA • MB
MEMORY
SELECTED REPEAT

COMPACT DISC PLAYER

MODEL CD-A30

AKAI
COMPACT DISC PLAYER CD-A30
DIGITAL
DISPLAY
REPEAT
CLEAR
MEMORY

MODEL CD-A30

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SECTION 2 PARTS LIST 15

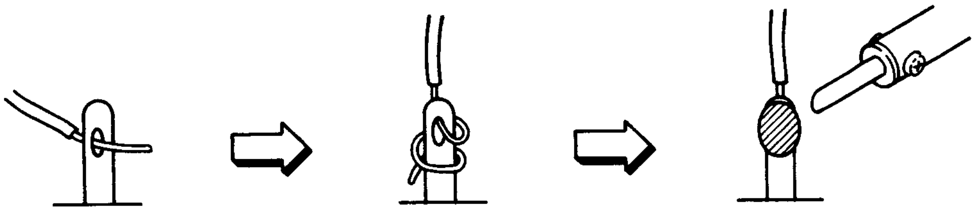
SAFETY INSTRUCTIONS

SAFETY CHECK AFTER SERVICING

Confirm the specified insulation resistance between power cord plug prongs and externally exposed parts of the set is greater than 10 Mohms, but for equipment with external antenna terminals (tuner, receiver, etc.) and is intended for $\boxed{C}$ or $\boxed{A}$, specified insulation resistance should be more than 2.2 Mohms (ground terminals, microphone jacks, headphone jacks. line-in-out jacks etc.)

PRECAUTIONS DURING SERVICING

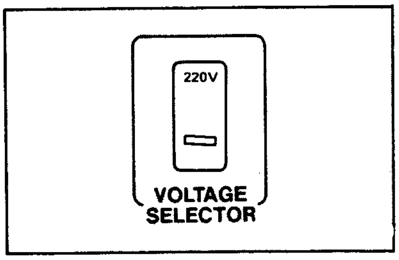
1. Parts identified by the ⚠ symbol parts are critical for safety.
   Replace only with parts number specified.
2. In addition to safety, other parts and assemblies are specified for conformance with such regulations as those applying to spurious radiation. These must also be replaced only with specified replacements.
   Examples: RF .converters, tuner units, antenna selector switches, RF cables, noise blocking capacitors, noise blocking filters, etc.
3. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads
4. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape
   2) PVC tubing
   3) Spacers (Insulating Barriers)
   4) Insulation sheets for transistors
   5) Plastic screws for fixing microswitch (especially in turntable)
5. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.), wrap ends of wires securely about the terminals before soldering.



6. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).
7. Check that replaced wires do not contact sharp edged or pointed parts.
8. Also check areas surrounding repaired locations.
9. Use care that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

VOLTAGE CONVERSION

Models for Canada, Europe, UK and Australia are not equipped with this facility. Each machine is preset at the factory according to destination, but some machines can be set to 110V – 120V or 220V – 240V, 120V or 230V as required. If your machine's voltage can be converted: Turn the voltage selector, located on the back panel, with a screwdriver until the correct voltage is indicated.



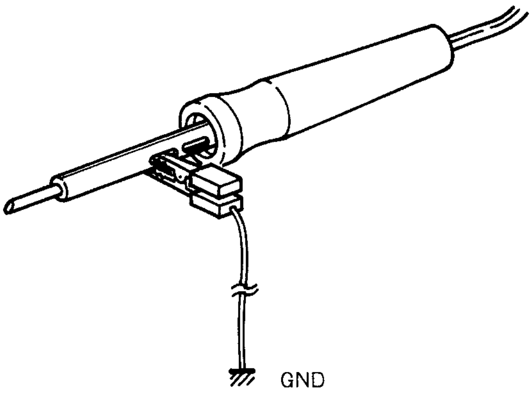
CYCLE CONVERSION

Cycle conversion is not necessary, since CD-A30 uses DC motors.

PRECAUTIONS IN REPAIRING

When repairing or adjusting the unit, please note the following points.

1. Do not put excessive pressure on the mechanical part (operation part), including the pick-up block, as extremely high mechanical precision is required in these parts.
2. When the base is removed for repair or adjustment, make sure that there are no metal objects in the narrow gap between the P.C. board or the mecha parts and the base.
3. The Micro-Computer (M50745-412SP) and the CD signal processing ICs (CX2018, CX2019, CX20133, CX23035 and CXK5816P-15L) can be damaged by static electricity or leakage from a soldering iron during repairing.
   While soldering, please take the precautions against leakage as in the illustration.
4. Do not loosen any screws in the pick-up block.
   When handling the pick-up block, please refer to the points to NOTE when replacing the pick-up block.
5. Keep safety for hazardous invisible Laser Radiation, DO NOT watch the Laser Beam (Objective Lens) directly.
6. Models for the same countries, Laser Warning Labels are affixed on the unit and inside of the unit, as shown below.
   Read it carefully for your safety, when repairing or adjusting the unit.



[DENMARK]

CLASS 1
LASER PRODUCT

A Label affixed on the unit

CAUTION ; INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED AVOID EXPOSURE TO BEAM

ADVARSEL ; USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION UNDGÅ UDSÆTTELSE FOR STRÅLING

A1 A Label affixed inside of the unit

[USA]

CLASS 1 LASER PRODUCT

A Label affixed on the unit

DANGER-INVISIBLE LASER RADIATION
WHEN OPEN AND INTERLOCK
FAILED OR DEFEATED.
AVOID DIRECT EXPOSURE TO BEAM.

A1 A Label affixed inside of the unit

SECTION 1

SERVICE MANUAL

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I. SPECIFICATIONS

MODEL CD-A30

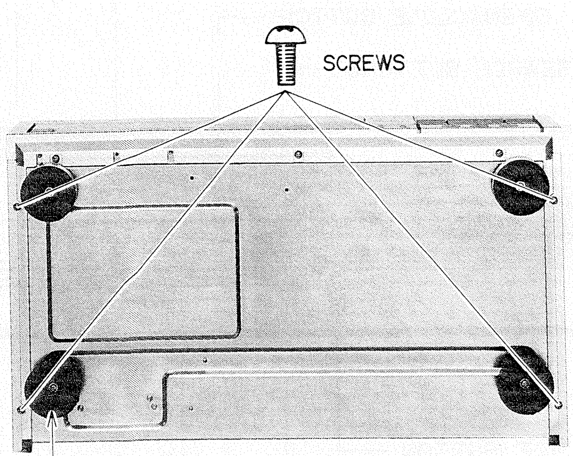
Sensor type	Optical
Pick-up system	3 beam semi-conductor laser
Channel	2
Sampling frequency	44.1 kHz
Frequency response	5 to 20,000 Hz
Dynamic range	90 dB
S/N ratio	90 dB
T.H.D.	0.006% (1 kHz)
Channel separation	86 dB (1 kHz)
Wow & flutter	Below measurable limits
Access time	2.6 sec
Line output level	2V
Power requirements	AC100V 50/60 Hz for Japan AC120V 50 Hz for USA & Canada AC220V 50 Hz for Europe except UK AC240V 50 Hz for UK & Australia AC110/120/220/240V, 50/60 Hz convertible for other countries
Power consumption	10W
Dimensions	440 (W) x 89 (H) x 260 (D) mm (17.3 x 3.5 x 10.2 inches)
Weight	3.5 kg (7.7 lbs)

*For improvement purposes, specifications and design are subject to change without notice.

II. DISMANTLING OF UNIT

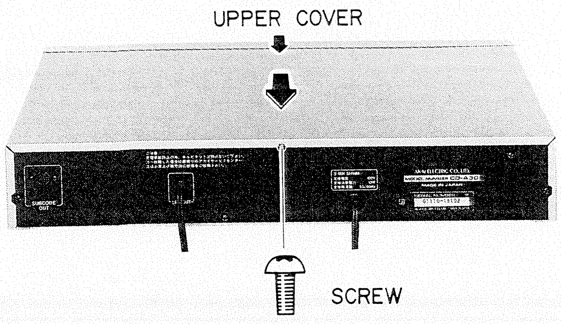
In case of trouble, etc. necessitating dismantling, please dismantle in the order shown in the photographs. Reassemble in reverse order.

1

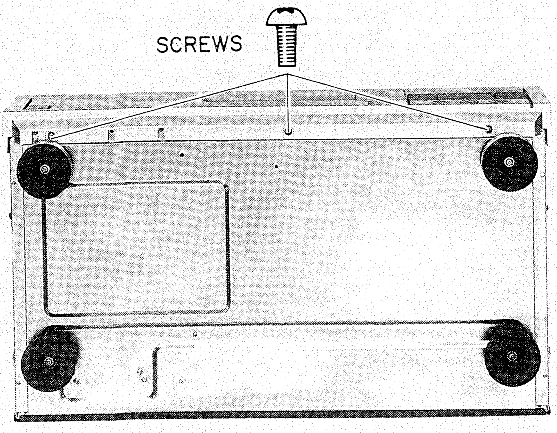


This type insulaters are used only for japan type.

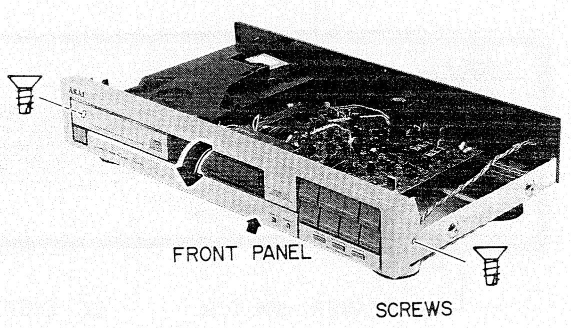
2


UPPER COVER
SCREW

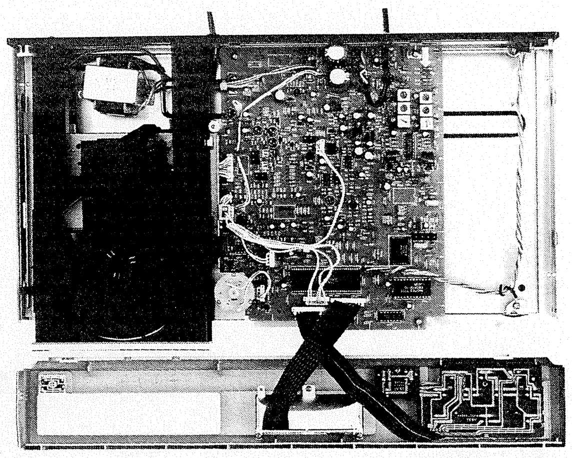
3



4


FRONT PANEL
SCREWS

5



NOTE: The unit used for picture is Japan type.

III. CONTROLS

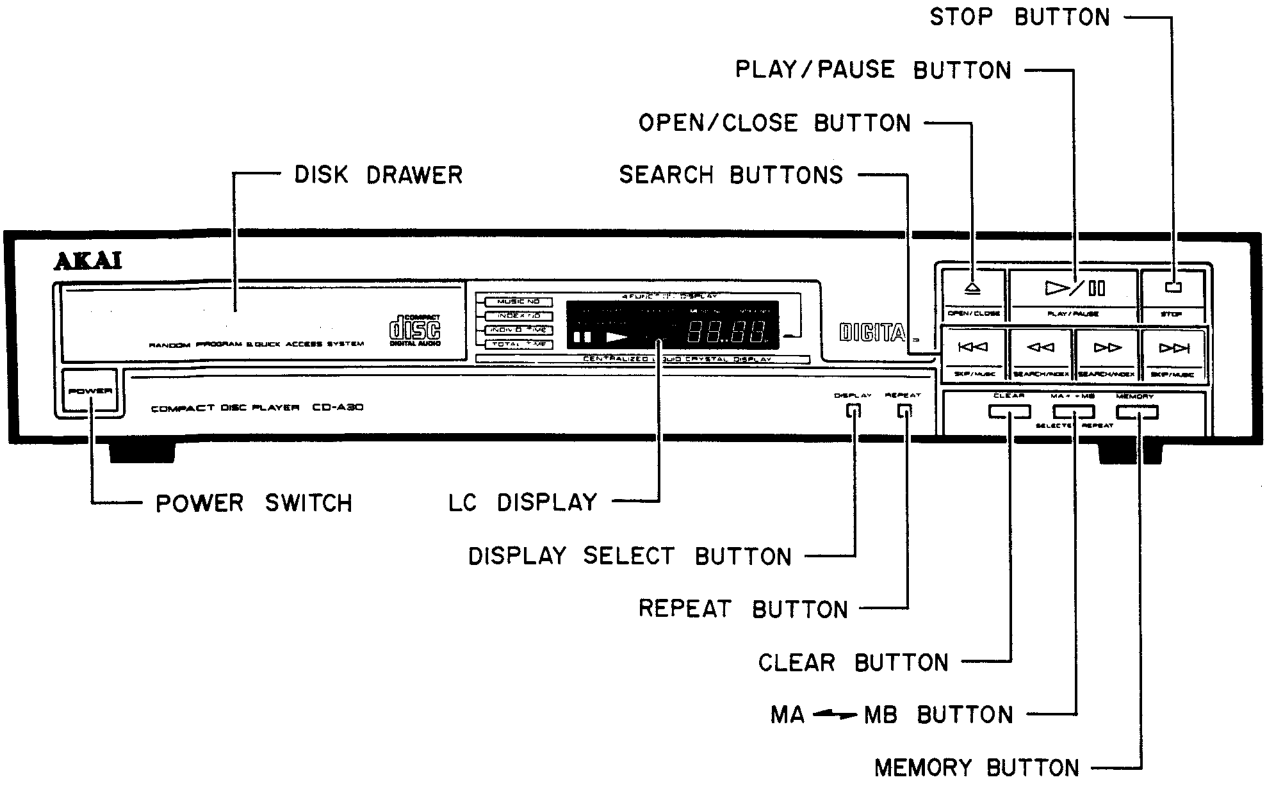

STOP BUTTON
PLAY/PAUSE BUTTON
OPEN/CLOSE BUTTON
DISK DRAWER
SEARCH BUTTONS
AKAI
RANDOM PROGRAM & QUICK ACCESS SYSTEM
POWER
COMPACT DISC PLAYER CD-A30
DIGITAL
OPEN/CLOSE
PLAY/PAUSE
STOP
DISPLAY
REPEAT
CLEAR
MEMORY
POWER SWITCH
LC DISPLAY
DISPLAY SELECT BUTTON
REPEAT BUTTON
CLEAR BUTTON
MA ⇄ MB BUTTON
MEMORY BUTTON

Fig. 3-1 Front View

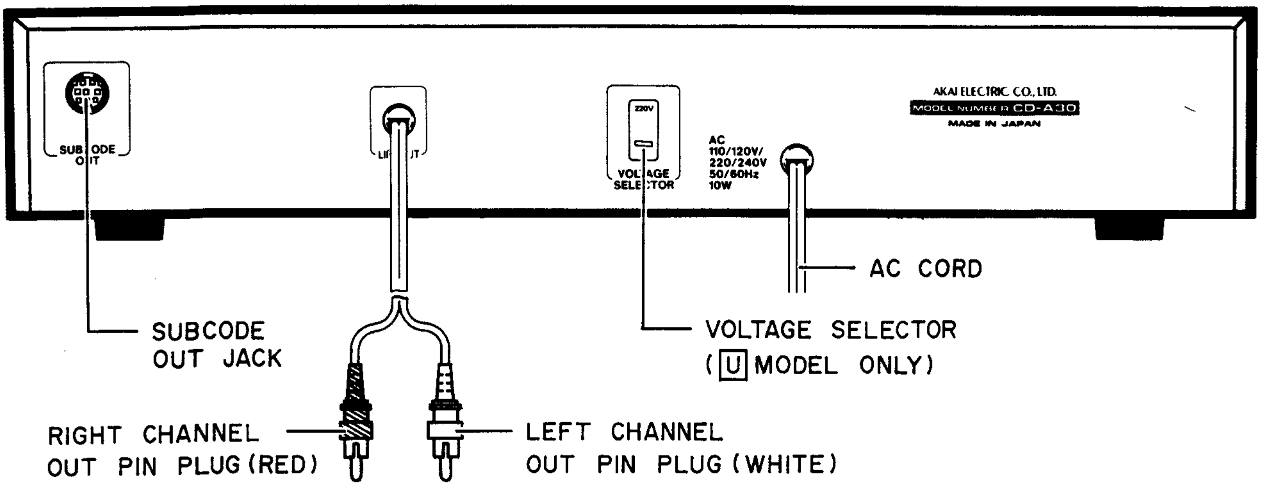

SUBCODE OUT
VOLTAGE SELECTOR
220V
AC 110/120V/ 220/240V 50/60Hz 10W
AKAI ELECTRIC CO., LTD.
MODEL NUMBER CD-A30
MADE IN JAPAN
AC CORD
SUBCODE OUT JACK
VOLTAGE SELECTOR (U MODEL ONLY)
RIGHT CHANNEL OUT PIN PLUG (RED)
LEFT CHANNEL OUT PIN PLUG (WHITE)

Fig. 3-2 Rear View

IV. PRINCIPAL PARTS LOCATION

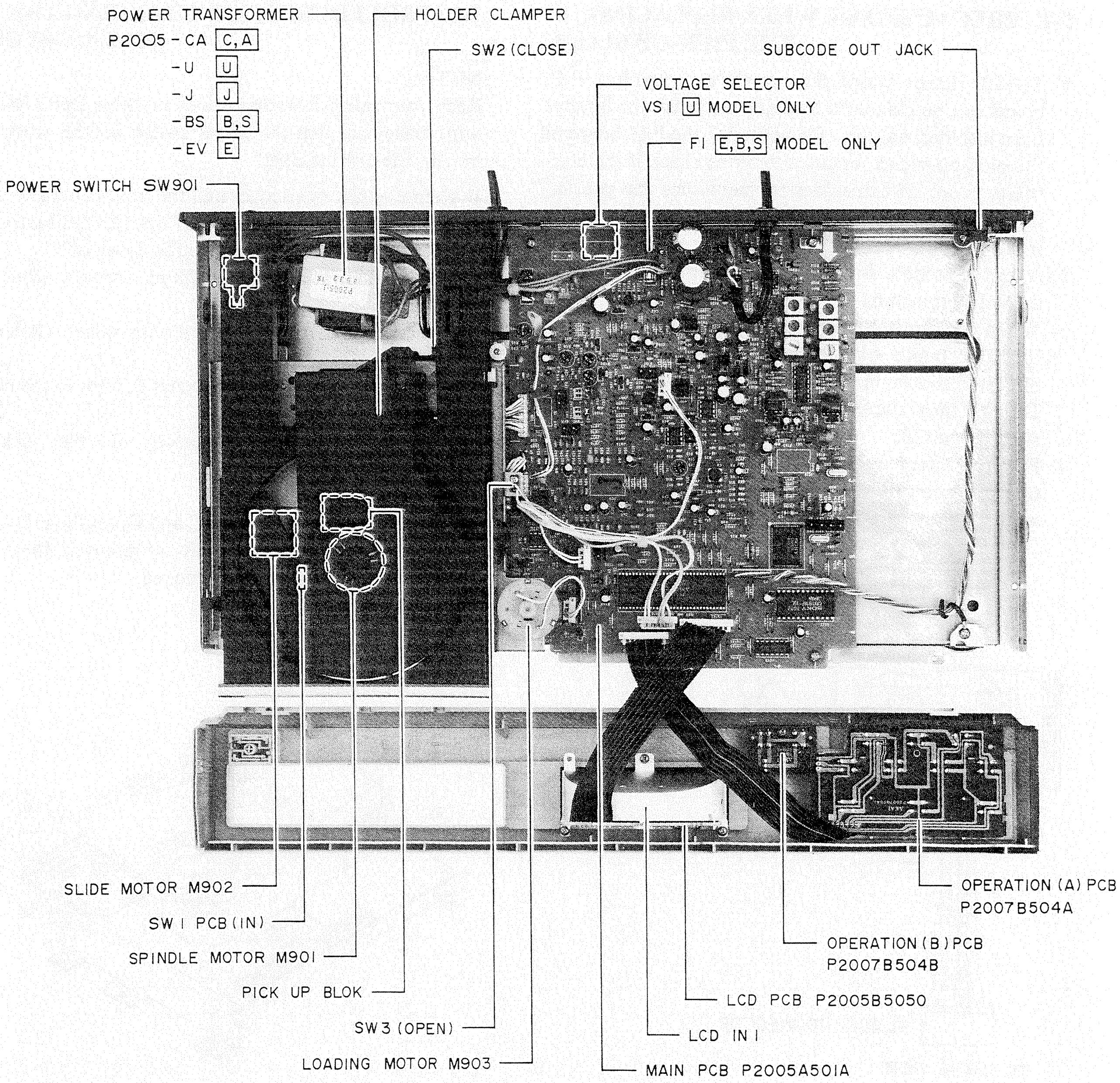

POWER TRANSFORMER
P2005 - CA C,A
-U U
-J J
-BS B,S
-EV E
HOLDER CLAMPER
SW2 (CLOSE)
SUBCODE OUT JACK
VOLTAGE SELECTOR
VS1 U MODEL ONLY
F1 E,B,S MODEL ONLY
POWER SWITCH SW901
SLIDE MOTOR M902
SW1 PCB (IN)
SPINDLE MOTOR M901
PICK UP BLOK
SW3 (OPEN)
LOADING MOTOR M903
OPERATION (A) PCB
P2007B504A
OPERATION (B) PCB
P2007B504B
LCD PCB P2005B5050
LCD IN1
MAIN PCB P2005A501A

Fig. 4-1 Top View

V. REPLACEMENT OF THE PICK-UP BLOCK

5-1. PRECAUTIONS, WHEN REPLACING THE PICK-UP BLOCK

1) The LD (Laser Diode) fixed on the pick-up block P.C. board can be damaged by static electricity or leakage from a soldering iron. Do not touch the P.C. board of the pick-up block, or use a tester to check if the electricity is on. When soldering, make sure that precautions are taken to prevent leakage from the soldering iron.
2) Avoid scratches, dirt or dust on the lens of the pick-up caused by touching with the fingers.
3) When connecting or disconnecting the Black connector (P2), make sure that the P.C. board is shorted circuit as shown in Fig. 5-1.
   Do not turn the electricity "ON" while it remains short-circuited.
4) For your safety from hazardous invisible Laser Radiation, replace only with pick-up block. Do not try to repair or the any adjustment.

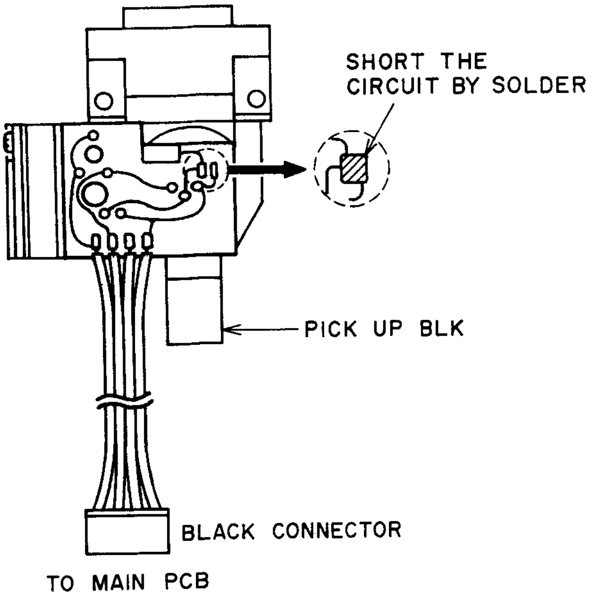


Fig. 5-1

5-2. PROCEDURES FOR CHANGING THE PICK-UP BLOCK

NOTE:
Keep your safety from hazardous invisible Laser Radiation, make sure that the power switch is OFF when removing the disk clamper.

1) Remove the upper cover and the front panel and turn the power on. Depress the OPEN/CLOSE button to open the disk tray. Then turn the power off.
2) Remove four Mecha chassis fixing screws A. (Refer to Fig. 5-2)
3) Short the pick-up P.C. board with solder. (Refer to Fig. 5-1)
4) Loosen two pick-up fixing screws B, remove the pick-up gear. (Refer to Fig. 5-3)
5) Remove the three connectors on the pick-up block: P1, 2 and 3.
6) Move the disk clamper.
7) When the four screws A, B, C and D, for the metal fittings of the pick-up guide rail are removed, the pick-up block guide rail can be removed. (Refer to Fig. 5-4)

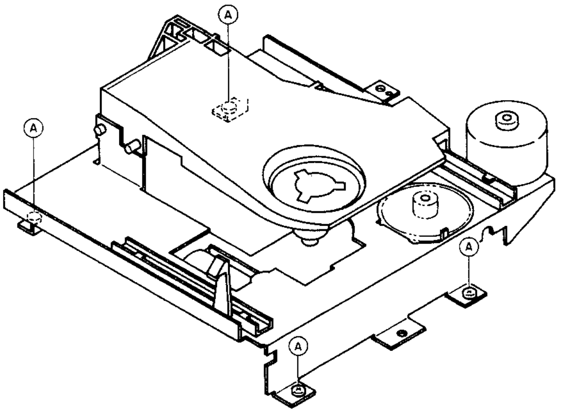


Fig. 5-2

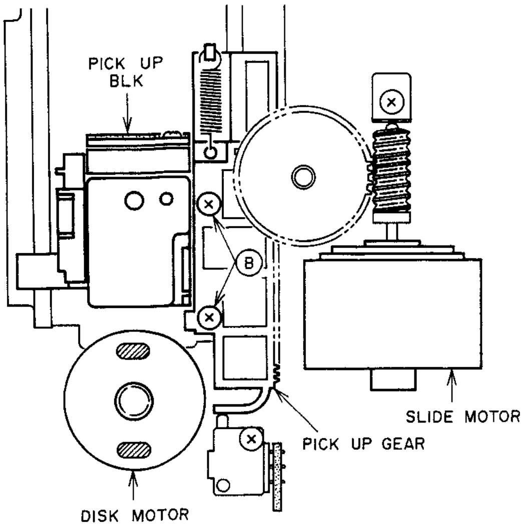


Fig. 5-3

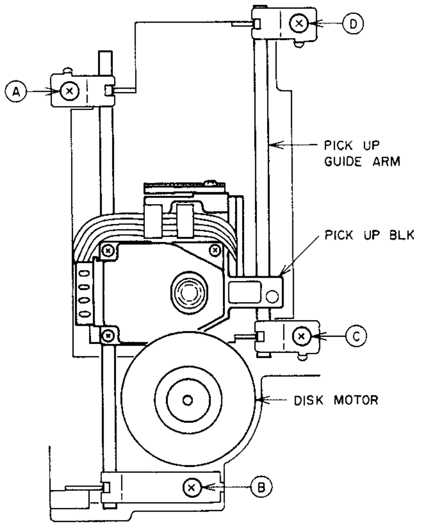


Fig. 5-4

VI. REPLACEMENT OF SPINDLE MOTOR

The turntable of the spindle motor has been pressed-in and they can not be replaced individually. When replacing the turntable or the spindle motor, replace the following parts as a set.

PARTS NO.	DESCRIPTION
BM-361225	MOTOR (SPINDLE)
MZ-362964	TURNTABLE
ZS-624870	HEXAGON SET SCREW

6-1. REMOVE AND ASSEMBLE SPINDLE MOTOR

1) Pull out the turntable from the spindle motor.
2) Remove two screws.
3) Unsolder two spindle motor wires.
4) Solder two wires to the new spindle motor.
5) Put the new spindle motor on to the chassis with two screws.
6) Put the new turntable on to the motor shaft and adjust the turntable so that the height of the turntable from chassis becomes 20 mm or its clearance from chassis becomes 4 mm as shown in Fig. 6-2.

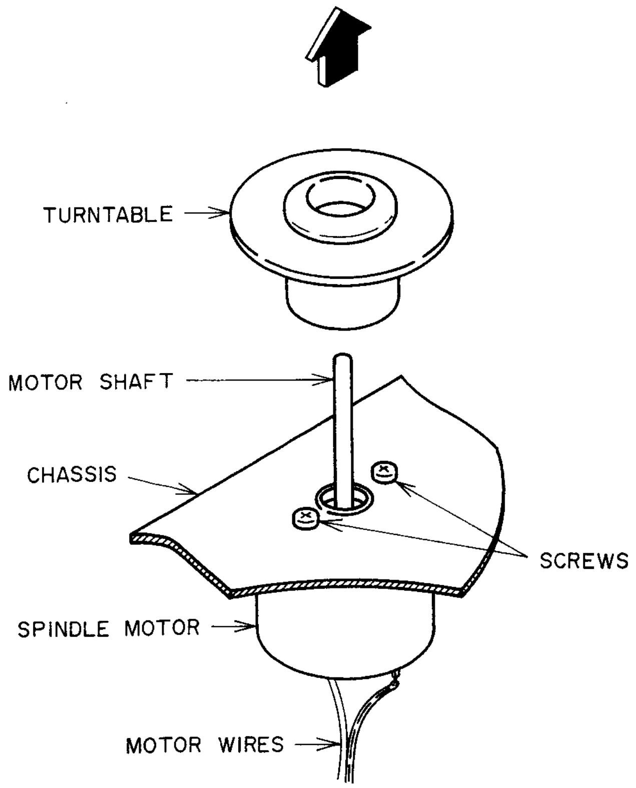

TURNTABLE
MOTOR SHAFT
CHASSIS
SCREWS
SPINDLE MOTOR
MOTOR WIRES

Fig. 6-1

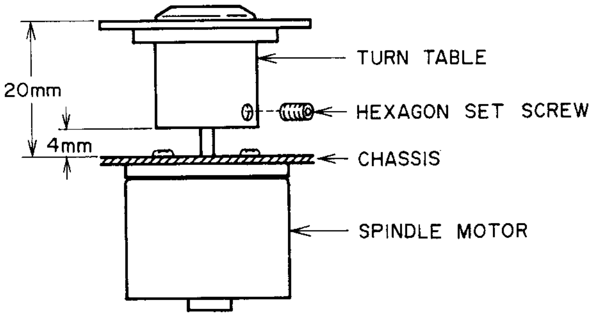

20mm
4mm
TURN TABLE
HEXAGON SET SCREW
CHASSIS
SPINDLE MOTOR

Fig. 6-2

VII. ADJUSTMENT

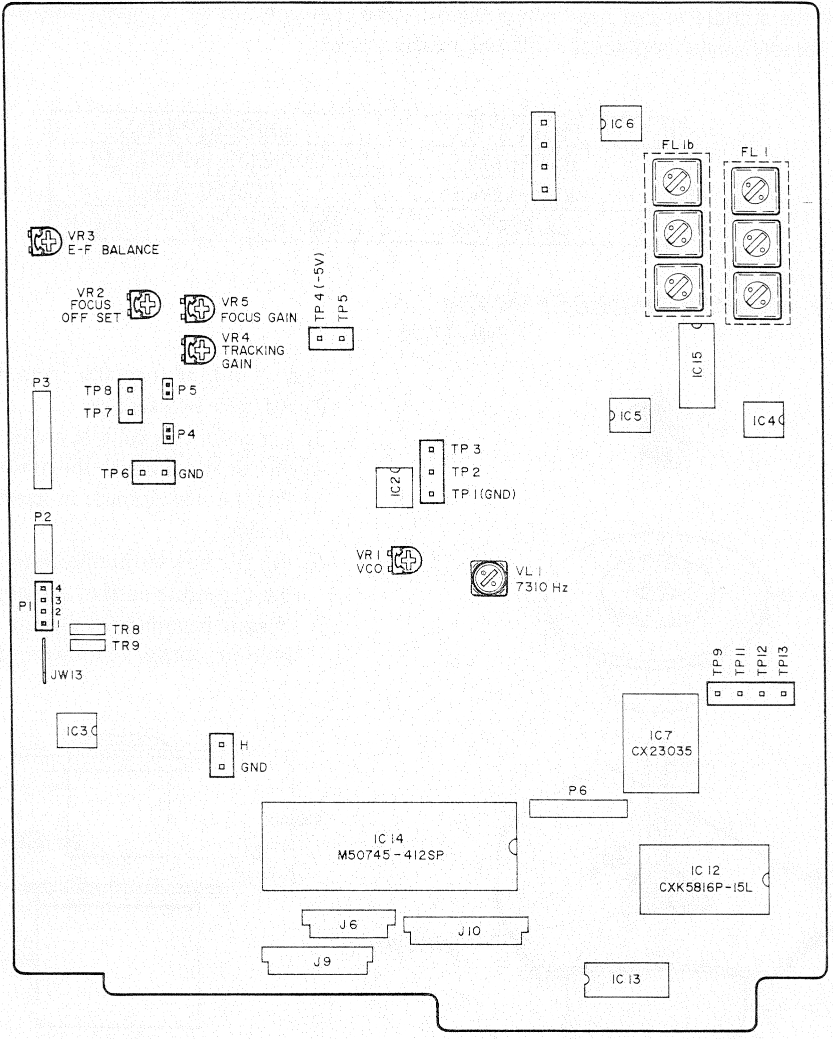

IC 6
FL Ib
FL I
VR 3
E-F BALANCE
VR 2
FOCUS
OFF SET
VR 5
FOCUS GAIN
VR 4
TRACKING
GAIN
TP 4 (-5V)
TP 5
IC 15
P3
TP 8
TP 7
P 5
P 4
IC 5
IC 4
TP 3
TP 2
TP 1 (GND)
IC 2
TP 6
GND
P2
VR 1
VCO
VL 1
7310 Hz
P1
4
3
2
1
TR 8
TR 9
JW 13
TP 9
TP 11
TP 12
TP 13
IC 3
H
GND
IC 7
CX23035
P6
IC 14
M50745-412SP
IC 12
CXK5816P-15L
J 6
J 10
J 9
IC 13

Fig. 7-1

7-1. ADJUSTMENT WHEN CHANGING THE PICK-UP

Change the pick-up, following the procedures in the V. REPLACEMENT OF THE PICK-UP BLOCK and when replacement is complete, turn the short terminal of the LD (Laser Diode) to open.

7-1-1. OPTICAL AXIS ADJUSTMENT

If the mechanical eccentricity is large when fixing the pick-up tracking errors become large.
This in turn interferes with the tracking servo, so optical axis adjustment is necessary.

1) Disconnect P4 on the Main P.C. board (to turn the tracking servo off).
2) Connect an oscilloscope to TP7 on the Main P.C. board.
3) Place the normal music disc, then play back the first music on it and observe the waveform of TP7.
4) Turn the adjustment screw A by degrees (Refer to Fig. 7-2) as waveform (Refer to Fig. 7-3) of TP7 will become maximum.

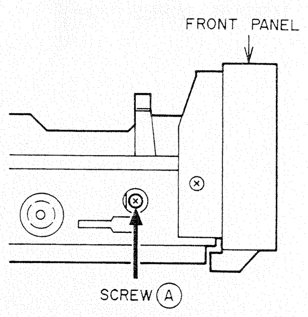

FRONT PANEL
SCREW (A)

Fig. 7-2

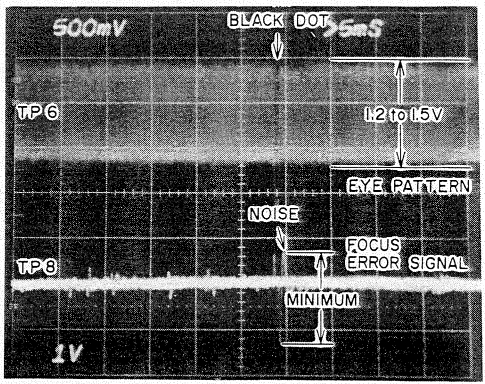


Fig. 7-3

* When it is difficult to observe maximum point of the waveform, use the following rectifier circuit as shown in Fig. 7-4.
Observe a change in DC voltage through above rectifier with oscilloscope and adjust the optical axis so that the DC voltage reading become maximum.

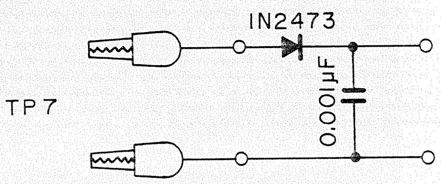


Fig. 7-4

7-1-2. READJUSTMENT OF E-F BALANCE

When the pick-up is changed, E-F balance adjustment must be performed.
Refer to item 7-2-4 for adjustment.

7-1-3. CHECKING THE ELECTRIC CURRENT OF THE LASER

The electric current of the laser is indicated on the labels on the pick-up.

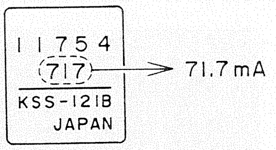


Fig. 7-5

1) Connect the millivoltmeter between TP4 and TP5 on the Main P.C. board and measure the voltage.

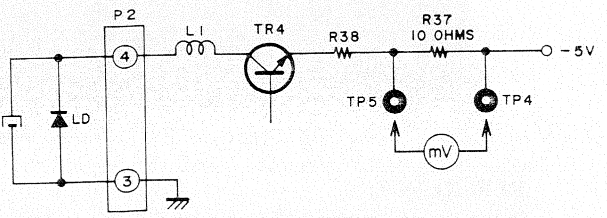


Fig. 7-6

2) Calculate the electric current of the laser from the voltage measured and check that is within ±4 mA of the recommended value.
Electric current of the laser = Voltage measured ÷ 10.

If the electric current of the laser exceeds ±4 mA of the recommended value, change the pick-up again.

7-1-4. APC (AUTOMATIC POWER CONTROL) CIRCUITRY

This is a servo circuit to maintain the LD (Laser Diode) power of the pick-up. The LD power has been adjusted by VR1 (on the pick-up block) at manufacture.
Keep safety from hazardous invisible Laser Radiation, do not touch this VR1.

7-2. SERVO ADJUSTMENT

Servo adjustment is an adjustment to the control circuitry for accurate and safe disc play back. When adjusting use a SONY TYPE 3 (No. YEDS 7) or PHILIPS (No. 410056-2 or 400079-2) as a test disc.

7-2-1. VCO FREQUENCY ADJUSTMENT

1) Connect a short wire between TP2 and TP1 (GND).
2) Connect a frequency counter to TP9.
3) Adjust VL1 so that the frequency is 7,310 ± 10 Hz.

7-2-2. VCO ADJUSTMENT

1) Connect an oscilloscope to TP12 on the Main P.C. board.
2) Insert the SONY TEST DISC TYPE-3, then depress the OPEN/CLOSE button to close the disc tray.
3) The total music number selections on the test disc will be displayed on the LC display.
4) Play back the test disc and adjust VR1 so that the error flags are at minimum.

MUSIC NO
TOTAL
99

Fig. 7-7

7-2-3. FOCUS OFF-SET ADJUSTMENT

1) Connect the oscilloscope to TP6 and TP8 on the Main P.C. board.
TP6 .... Eye pattern waveform
TP8 .... Focus error signal

2) Play back the Track No. 17 of PHILIPS TEST DISC and adjust the VR2 so that the noise is at minimum.

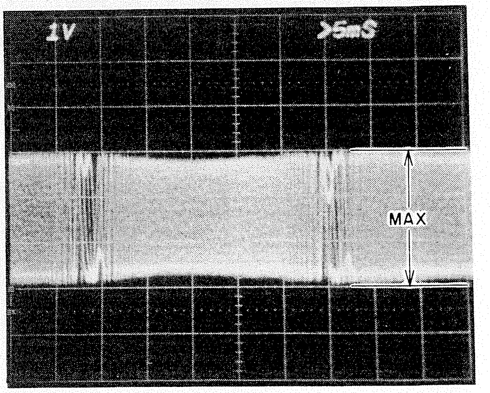


Fig. 7-8

7-2-4. E-F BALANCE ADJUSTMENT

This is to adjust the output balance of diodes E and F for tracking error detection.

When changing the pick-up adjusting the tracking constancy, this must be checked and adjusted.

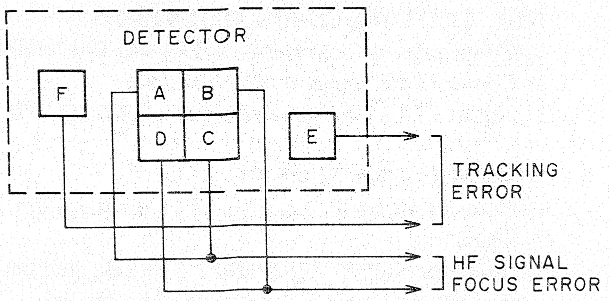


Fig. 7-9

1) Connect the oscilloscope to TP7 on the Main P.C. board.
   Measure direct current voltage via an integral circuitry between TP7 and the oscilloscope as in illustration in Fig. 7-10.

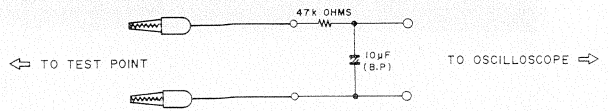


Fig. 7-10

2) Play back the test disc and turn the machine to pause.
3) Extract the short plug (P4) on the Main P.C. board.
4) Adjust the VR1 for E-F balance so that the ground level is center of the waveform.

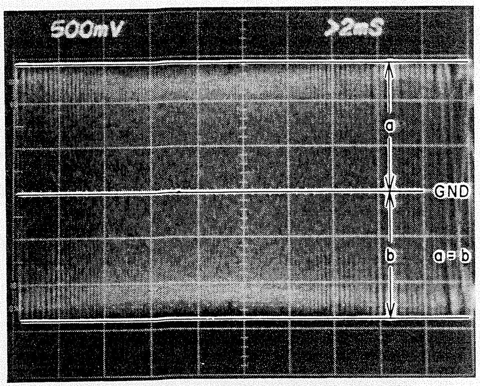


Fig. 7-11

7-2-5. FOCUS GAIN ADJUSTMENT

1) Connect the oscilloscope between P1-pin 1 terminal on the Main P.C. board and earth, and measure the voltage on the focus coil.
2) Play back the test disc and adjust VR5 so that the tracking coil voltage is 500 to 600 mVp-p.

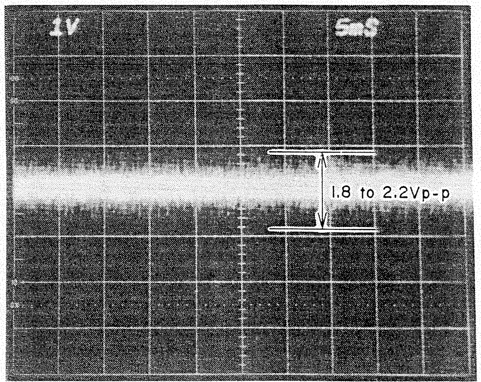


Fig. 7-12

7-2-6. TRACKING GAIN ADJUSTMENT

1) Connect the oscilloscope between P1-pin 3 terminal on the Main P.C. board and measure the voltage on the tracking coil.
2) Play back the test disc and adjust VR4 so that the tracking coil voltage is 1.8 to 2.2 Vp-p.

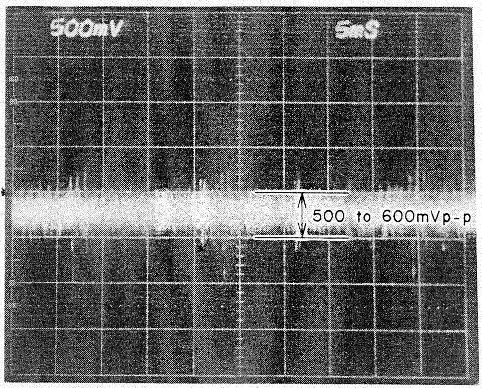


Fig. 7-13

REFERENCE:

If the sound jumps when the machine is lightly jolted, this means the tracking gain is small.

If a disc with a scratch of 600μ is played and the sound jumps, this means the tracking gain is large.

Philips No. 40079-2 Track No. 6, 01′05″ up till Track No. 7, 00′02″.

VIII. P.C BOARD TITLES AND IDENTIFICATION NUMBERS

PC BOARD TITLE		PC BOARD NUMBERS	REMARKS
MAIN	PC BOARD	P2005A501A-503A	
OPERATION (A)	PC BOARD	P2007B504A	
OPERATION (B)	PC BOARD	P2007B504B	
LCD	PC BOARD	P2005B5040	

SECTION 2

PARTS LIST

TABLE OF CONTENTS

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1. MECHA BLOCK 19
2. PC BOARD BLOCK 19
3. MAIN PC BOARD 20
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5. OPERATION (B) PC BOARD 20
6. LCD PC BOARD 20
7. ASSEMBLY BLOCK 21
8. FINAL ASSEMBLY BLOCK 22
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ATTENTION

1. When placing an order for parts, be sure to list the parts no. model no., and description of each part. If any of this information is omitted, there are instances in which parts cannot be shipped or the wrong parts will be delivered.
2. Please be careful not to make a mistake in the parts no. If the parts no. is in error, a part different from the one ordered may be delivered.
3. Because part numbers and part definitions and supply in the Preliminary Parts List may have been the subject of changes, please use this parts list for all future reference.

HOW TO USE THIS PARTS LIST

1. This Parts List shows those parts which are considered necessary for repairs. Other parts, such as resistors and capacitors, are shown in the "Common List for Service Parts" from which these parts should be selected and parts.
2. The Recommended Spare Parts List shows those parts in the Parts List which are considered particularly important for service.
3. Parts not shown in the Parts List and "Common List for Service Parts" will not in principle be supplied.
4. How to read the parts list
   a) Mechanism Block
   b) P.C Board

2. HEAD BASE BLOCK

REF. NO.	PART NO.	DESCRIPTION
2-1x	BH-T2023A320A	HEAD BASE BLOCK GX-F66R
2-2	HP-H2206A010A	HEAD R/P PR4-8FU C
2-3	ZS-477876	PAN20×03STL CMT
2-4	ZS-536488	BID20×08STL CMT
2-5	ZG-402895	CS ANGLE ADJUST SPRING

SP (Service Parts) Classification

A small "x" indicates the inability to show that particular part in the Photo or Illustration.

This number corresponds with the individual parts index number in that figure

This number corresponds with the Figure Number

6. SYS. CON. P C BOARD

REF. NO.	PART NO.	DESCRIPTION
6-IC1	EI-324536	IC HD14049BP
6-IC2	EI-336801	IC MB8841-564M
6-IC3	EI-331661	IC SN7405N
6-IC4	EI-336725	IC M54527P
6-TR1to4	ET-200985	TR 2SC2603 F,G
6-TR5to28	ET-554657	TR 2SA733A P,Q
6-D1	ED-318292	D SILICON H 1S2473T-77 T26
6-D2to4	ED-308952	D GERMA V 1K34A-LR F07
6-D5to10	ED-318292	D SILICON H 1S2473T-77 T26
6-X1	EI-318384	OSC X'TAL NC-18C 3.579545MHZ

SP (Service Parts) Classification

These reference symbols correspond with component symbols in the Schematic Diagrams.

5. The kind of part and its installation position can both be determined by the Part Number. To determine where a part number is listed, utilize the Parts Index at the end of the Parts List. It is necessary first of all to find the Part Number. This can be accomplished by using the Reference Number listed at the right of the part number in the Parts Index.

WARNING

⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURE'S RECOMMENDED PARTS

AVERTISSEMENT

⚠ IL INDIQUE LES COMPOSANTS CRITIQUES DE SÉCURITÉ. POUR MAINTENIR LE DEGRÉ DE SÉCURITÉ DE L'APPAREIL, NE REMPLACER QUE DES PIÉCES RECOMMANDEES PAR LÉ FABRICANT

RECOMMENDED SPARE PARTS LIST

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

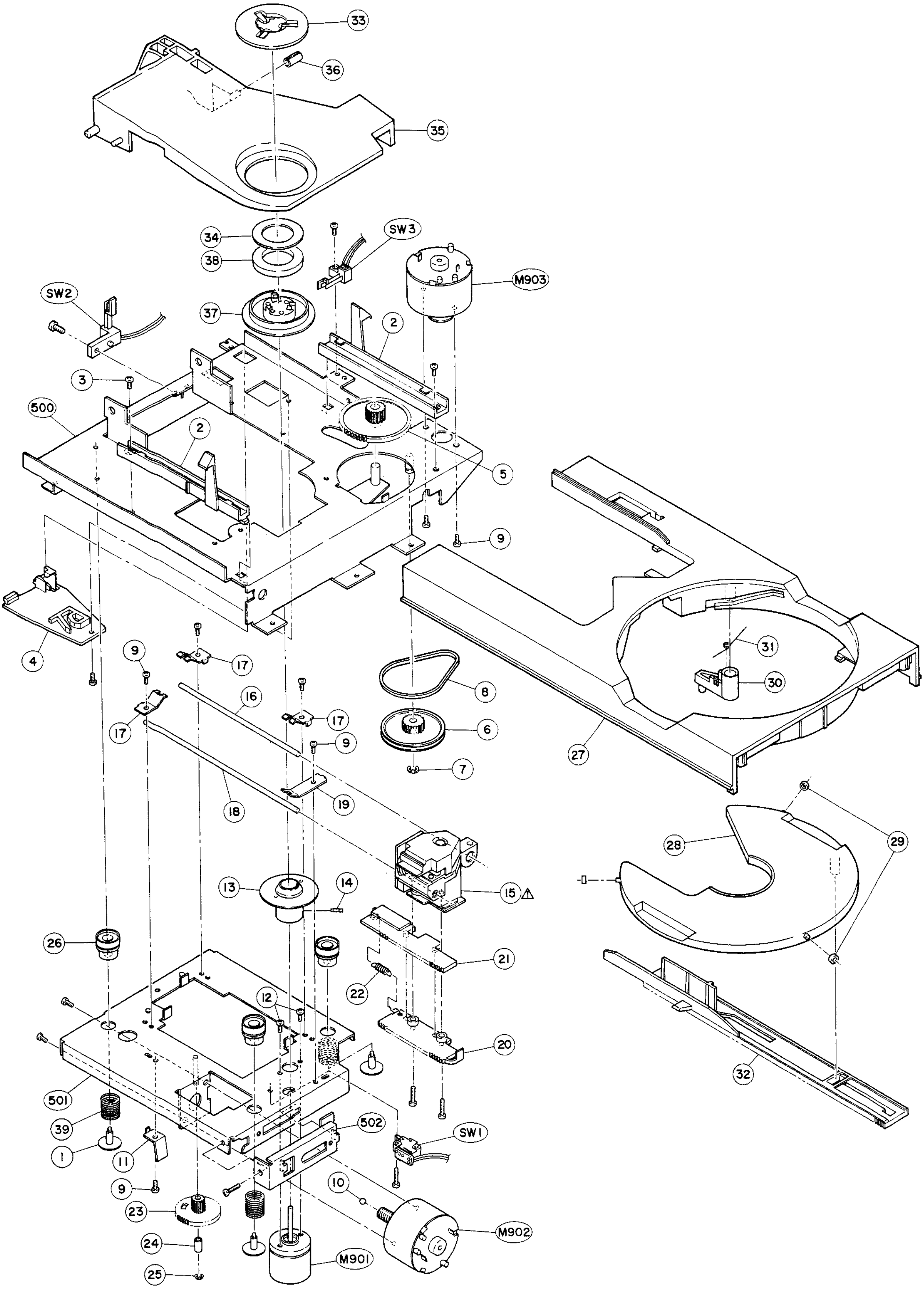
REF. NO.		PART NO.	DESCRIPTION
1	N	BM-P2005A110A	LOADING MOTOR BLK CD-M515
2	N	BM-361225	SPINDLE MOTOR RF-310TB-11400
3	N	BM-P2005A140A	SLIDE MOTOR BLK CD-M515
4		BO-359294	⚠ PICK UP KSS-121B
5	N	BT-361204	⚠ TRANS POWER P2005-A, C (C, A)
6	N	BT-361206	⚠ TRANS POWER P2005-B, S (B, S)
7	N	BT-361205	⚠ TRANS POWER P2005-E, V (E)
8	N	BT-361202	⚠ TRANS POWER P2005-J (J)
9	N	BT-361201	⚠ TRANS POWER P2005-U/T (U)
10		ED-301911	D SILICON H DS448
11		ED-344280	D SILICON H GMA-01-FY2 F05
12		ED-306109	D SILICON W03B 100/1.0A
13		ED-353692	D VARACTER SVC321 C, D DOUBLE
14		ED-331617	D ZENER H HZ6 A3
15		ED-300035	D ZENER H HZ6 B3
16		ED-319167	D ZENER H HZ6 C3
17		ED-201581	D ZENER H HZ7 B1
18		EF-601964	⚠ FUSE SEMKO T 1.60A 250V (E, B, S)
19		EI-330352	IC BA6109
20	N	EI-361234	IC CX 20108
21	N	EI-361235	IC CX 20133
22	N	EI-361232	IC CX 23035
23	N	EI-362736	IC CXK5816P-15L
24	N	EI-361233	IC CX20109
25	N	EI-361230	IC LC7580
26		EI-355863	IC MB84053B
27	N	EI-361237	IC M50745
28		EI-349719	IC M5218P
29	N	EI-362588	IC M5238P
30		EI-304657	IC TC4011BP
31		EI-337360	IC μPC4082C
32		EI-349372	OSC CE CSA4.00MG 4MHz
33	N	EI-361223	OSC X'TAL NR-18 35.002000MHz
34	N	EI-361222	OSC X'TAL NR-18 8.467200MHz
35	N	EL-361231	PL SOCKET 14.0V 100MA
36	N	EM-361229	IND LCD 9421P
37	N	EO-361227	COIL VARI 1 A119AN-16737Z
38	N	EO-362920	COIL VARI 1 25-5430-13 WHITE
39	N	EO-362921	COIL VARI 1 25-5431-13 RED
40	N	EO-362922	COIL VARI 1 25-5432-13 BLACK
41		ES-357876	⚠ SW PUSH A2B-1A (C, A)
42		ES-357947	⚠ SW PUSH A2B-1A (U, J, E, B, S)
43		ES-344274	⚠ SW SELECTOR HXW0244-01-060 01-4 (U)
44	N	ES-362933	SW LEAF MSW-1294NBK
45		ES-344257	SW LEAF MSW-1418L 01-1 NO
46		ES-355842	SW SLIDE SSCTP1026A 01-2
47		ES-349474	SW TACT SKHHAM004A
48		ET-345626	⚠ TR 2SA1248 S, T
49		ET-354841	⚠ TR 2SA1282A F, G F05
50		ET-322598	⚠ TR 2SB632K E, F
51		ET-318237	⚠ TR 2SB764 E, F
52		ET-345625	⚠ TR 2SC3116 S, T
53		ET-357845	⚠ TR 2SC3242A F, G F05
54		ET-310148	⚠ TR 2SD612K E, F
55		ET-354897	TR FET 2SK170 BL, GR, V
56		ET-308472	TR 2SA1115 E, F, G F05
57		ET-349718	TR 2SA1392 S, T
58		ET-308141	TR 2SC2603 G F05
59		ET-349081	TR 2SC3383 S, T
60		ET-200986	TR 2SD863-V8 F
61		EV-358829	R S-FIX H RH0615CJ4J 3P 223
62		EV-356583	R S-FIX H RH0615CN3J 3P 332
63		EV-356577	R S-FIX H RH0615C14J 3P 103
64		EV-357619	R S-FIX H RH0615C15J 3P 104
65	N	MB-362932	BELT LOADING
66		MR-352158	PULLEY GEAR
67	N	MZ-359839	GEAR RACK
68	N	MZ-359769	GEAR LOADING
69	N	MZ-359760	GEAR PICK UP (A)
70	N	MZ-359761	GEAR PICK UP (B)
71	N	MZ-359762	GEAR WHEEL (A)
72	N	MZ-359767	HOLDER RAIL
73	N	MZ-362964	TURN TABLE CD

"NOTE" N: New Parts

SYMBOL FOR DESTINATION

[A]: AAL (U.S.A)
[B]: UK (ENGLAND)
[C]: CSA (CANADA)
[E]: CEE (EUROPE)
[J]: JPN (JAPAN)
[S]: SAA (AUSTRALIA)
[U]: U/T (UNIVERSAL AREA)

MECHA BLOCK


SW3
M903
SW2
15 ⚠
SW1
M902
M901

1. MECHA BLOCK

REF. NO.	PART NO.	DESCRIPTION
1-1	ZS-366253	SCREW
1-2	MZ-359767	HOLDER RAIL
1-3	ZS-432843	PAN26 × 04STL CMT
1-4	MZ-359768	STOPPER TRAY
1-5	MZ-359769	GEAR LOADING
1-6	MR-352158	PULLEY GEAR
1-7	ZW-357164	RING E 230SUP CMT
1-8	MB-362932	BELT LOADING
1-9	ZS-592378	PAN26 × 03STL CMT
1-10	MV-368886	BALL 300STL
1-11	ZG-351817	SP PLATE THRUST
1-12	ZS-608095	PAN20 × 05STL CMT
*1-13	MZ-362964	TURN TABLE CD
*1-14	ZS-624870	6SET20 × 040SCM PKR HP
1-15	BO-359294	⚠ PICK UP KSS-121B
1-16	MS-359759	SHAFT SUB
1-17	MZ-351814	HOLDER SHAFT (A)
1-18	MS-351813A	SHAFT (A)
1-19	MZ-359836	HOLDER SHAFT (B)
1-20	MZ-359760	GEAR PICK UP (A)
1-21	MZ-359761	GEAR PICK UP (B)
1-22	ZG-357808	SP T6-03.2/0.29-11.2 T6-059
1-23	MZ-359762	GEAR WHEEL (A)
1-24	TC-676844	SPACER 3 × 6
1-25	ZW-270088	RING E190SUP CMT
1-26	MB-363112	CUSHION RUBBER (B)
1-27	SC-361087	COVER DISC TRAY
1-28	SZ-359775	HOLDER DISC
1-29	MR-345158	ROLLER
1-30	ML-359833	LEVER LOCK
1-31	ZG-359830	SP TORSION LEVER
1-32	MZ-359839	GEAR RACK
1-33	SC-359770	CAP CLAMP
1-34	MZ-361943	PLATE
1-35	MZ-359837	HOLDER CLAMPER
1-36	MH-639281	SPACER 3 × 8
1-37	MZ-359766	CLAMPER
1-38	MZ-362855	MAGNET FM27 × 17 × 3
1-39	ZG-366252	SP PUSH CUSHION
*1-M901	BM-361225	SPINDLE MOTOR RF-310TB-11400
1-M902	BM-P2005A140A	SLIDE MOTOR BLK CD-M515
1-M903	BM-P2005A110A	LOADING MOTOR BLK CD-M515
1-SW1	ES-355842	SW SLIDE SSCTP1026A 01-2
1-SW2	ES-362933	SW LEAF MSW-1294NBK
1-SW3	ES-344257	SW LEAF MSW-1418L 01-1 NO

NOTE: Parts listed in 1-1 to 1-SW3 on the exploded view and list are normally stocked for replacement purpose.
The remaining parts shown in this manual are not normally stocked, because they are seldom required for routine service.

NOTE * : When repairing 1-M901 (SPINDLE MOTOR) or 1-13 (TURN TABLE CD), replace the following items as a set.

- 1-M901 (SPINDLE MOTOR)
- 1-13 (TURN TABLE CD)
- 1-14 (6 SET 20 × 040 SCM PKR HP)

2. PC BOARD BLOCK

REF. NO.	PART NO.	DESCRIPTION
2-1	BA-P2005A020G	PC MAIN BLK CD-A30 (J)
2-1A	BA-P2005A020F	PC MAIN BLK CD-A30 (U)
2-1B	BA-P2005A020H	PC MAIN BLK CD-A30 (C, A)
2-1C	BA-P2005A020J	PC MAIN BLK CD-A30 (E, B, S)
2-2	BA-P2005A090A	PC LCD BLK CD-M515

3. MAIN PC BOARD

REF. NO.	PART NO.	DESCRIPTION
3-IC1,2	EI-337360	IC μPC4082C
3-IC3,6	EI-349719	IC M5218P
3-IC4,5	EI-362588	IC M5238P
3-IC7	EI-361232	IC CX23035
3-IC8	EI-361233	IC CX20109
3-IC9	EI-361234	IC CX20108
3-IC10	EI-361235	IC CX20133
3-IC11	EI-330352	IC BA6109
3-IC12	EI-362736	IC CXK5816P-15L
3-IC13	EI-304657	IC TC4011BP
3-IC14	EI-361237	IC M50745
3-IC15	EI-355863	IC MB84053B
3-TR1,8,12	ET-310148	⚠ TR 2SD612K E, F
3-TR2,9	ET-322598	⚠ TR 2SB632K E, F
3-TR3,5 to 7, 16,27,31	ET-308141	TR 2SC2603 G F05
3-TR4,10	ET-200986	⚠ TR 2SD863-V8 F
3-TR11,13	ET-318237	⚠ TR 2SB764 E, F
3-TR14	ET-357845	⚠ TR 2SC3242A F, G F05
3-TR15	ET-354841	⚠ TR 2SA1282A F, G F05
3-TR17,29,30	ET-349718	TR 2SA1392 S, T
3-TR18,25	ET-308472	TR 2SA1115 E, F, G F05
3-TR19	ET-354897	TR FET 2SK170 BL, GR, V
3-TR20,21, 26,28	ET-349081	TR 2SC3383 S, T
3-TR22	ET-345625	⚠ TR 2SC3116 S, T
3TR23,24	ET-345626	⚠ TR 2SA1248 S, T
3-D1,4,9, 13, 14	ED-344280	D SILICON H GMA-01-FY2 F05
3-D2	ED-300035	D ZENER H HZ6 B3
3-D5,6 to 8,17	ED-331617	D ZENER H HZ6 A3
3-D10 to 12	ED-306109	⚠ D SILICON W03B 100/1.0A
3-D15,16	ED-353692	D VARACTER SVC321 C, D DOUBLE
3-D18,21	ED-301911	D SILICON H DS448
3-D19	ED-319167	D ZENER H HZ6 C3
3-D20	ED-201581	D ZENER H HZ7 B1
3-VS1	ES-344274	⚠ SW SELECTOR HXW0244-01-060 01-4 (U)
3-VR1	EV-356583	R S-FIX H RH0615CN3J 3P 332
3-VR2,3	EV-357619	R S-FIX H RH0615C15J 3P 104
3-VR4	EV-358829	R S-FIX H RH0615CJ4J 3P 223
3-VR5	EV-356577	R S-FIX H RH0615C14J 3P 103
3-VL1	EO-361227	COIL VARI 1 A119AN-16737Z
3-VL2	EO-362920	COIL VARI 1 25-5430-13 WHITE
3-VL3	EO-362921	COIL VARI 1 25-5431-13 RED
3-VL4	EO-362922	COIL VARI 1 25-5432-13 BLACK
3-L1	EO-345913	COIL FIX 1 LAL03KH 100K
3-L2	EO-345902	COIL FIX 1 LAL03KH 1R0M
3-L3	EO-338112	COIL FIX 1 LAL04 100K
3-X1	EI-361222	OSC X'TAL NR-18 8.467200MHz
3-X2	EI-361223	OSC X'TAL NR-18 35.002000MHz
3-X3	EI-349372	OSC CE CSA4.00MG 4MHz
3-C38	EC-307684	C EC V F05 NP SM R47M 50DC
3-C65	EC-362734	C STY V S05 CQ09S2B 222J 125DC
3-C67	EC-347263	C MC V F05 FM 221J 500DC
3-C68	EC-350672	C PP V F05 PP 681J 50DC
3-C69,71	EC-345724	C PP V F05 PP 222J 50DC
3-C70	EC-361245	C PP V F05 PP 272J 50DC
3-C72	EC-361246	C PP V F05 PP 362J 50DC
3-C74,77	EC-362258	C EC CUT SM 682M 10.00DC
3-C90	EC-320548	⚠ C CE V F 103Z 250AC (U, J)
3-C90A	EC-338411	⚠ C CE V FZ 103P 400AC (C, A, E, B, S)
3-C92	EC-362234	C STY V S05 CQ09S2B 221J 125DC
3-C101	EC-305428	C TT V D 3R3M 10DC
3-C108	EC-362235	C PP V F05 PP 103J 50DC
3-J1	EJ-362303	DIN J TPX3204-01-030 8P
	ASSEMBLY BLOCK	
3-F1	EF-601964	⚠ FUSE SEMKO T 1.60A 250V (E, B, S)

4. OPERATION (A) PC BOARD

REF. NO.	PART NO.	DESCRIPTION
4-TS1 to 10	ES-349474	SW TACT SKHHAM004A

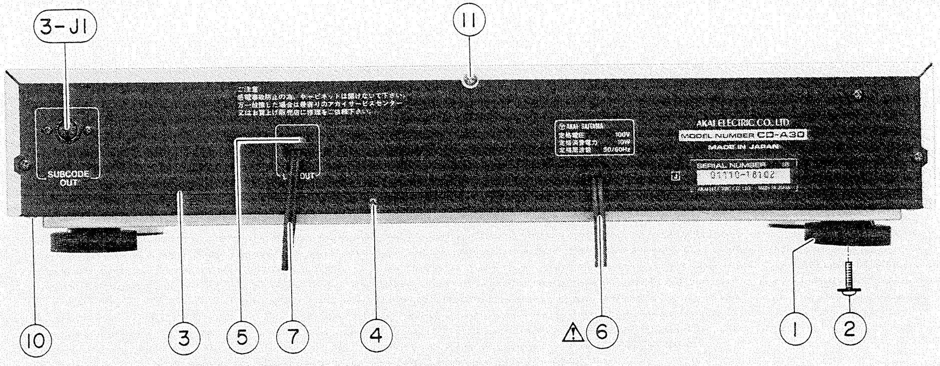
5. OPERATION (B) PC BOARD

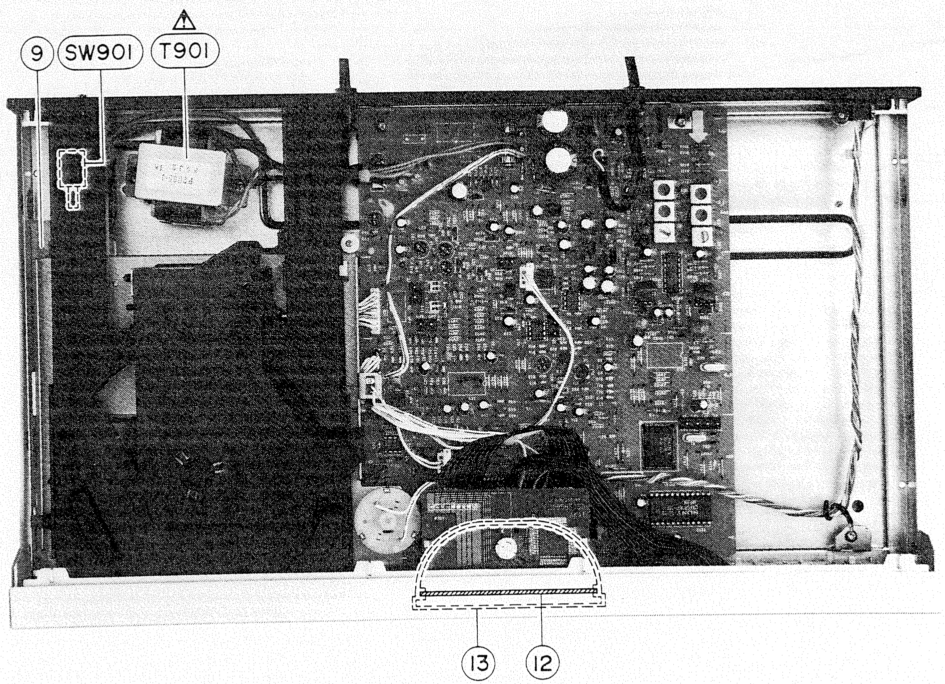
REF. NO.	PART NO.	DESCRIPTION
5-TS11,12	ES-349474	SW TACT SKHHAM004A

6. LCD PC BOARD

REF. NO.	PART NO.	DESCRIPTION
	LCD PC BOARD	
6-IC1	EI-361230	IC LC7580
	ASSEMBLY BLOCK	
6-IN1	EM-361229	IND LCD 9421P
6-IN2	EL-361231	PL SOCKET 14.0V 100MA

ASSEMBLY BLOCK

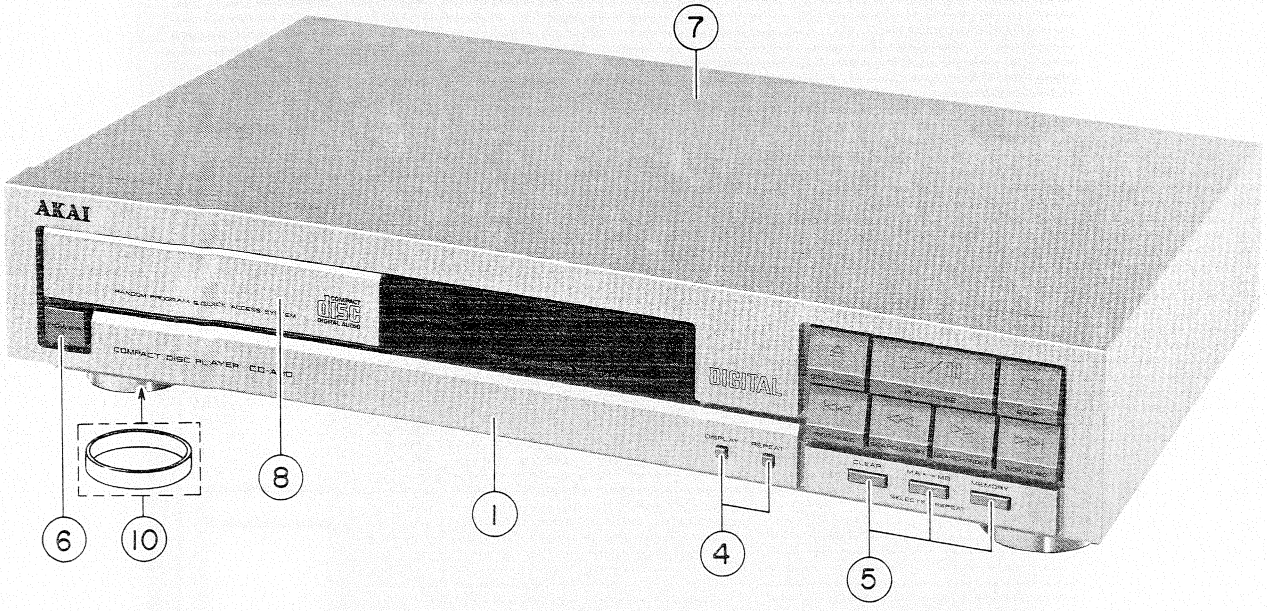




7. ASSEMBLY BLOCK

REF. NO.	PART NO.	DESCRIPTION
	ASSEMBLY BLOCK	
7-1	SA-364520	INSULATOR CD (J)
7-1A	SA-349332	FOOT (EXCEPT J)
7-2	ZS-369042	SCREW Y2358 (7-1 FIX) (J)
7-2A	ZS-354869	ST BR30 × 06STL CMT C080 (7-1A FIX) (EXCEPT J)
7-3	SP-362614B	PANEL REAR CD-A30 (J)
7-3A	SP-362614A	PANEL REAR CD-A30 (U)
7-3B	SP-362614C	PANEL REAR CD-A30 (A, C)
7-3C	SP-362614D	PANEL REAR CD-A30 (E, V)
7-3D	SP-362614E	PANEL REAR CD-A30 (B, S)
7-4	ZS-354403	ST BR30 × 08STL BNI (PANEL REAR FIX)
7-5	EZ-631945	STRAIN RELIEF SR-4N-4
7-6	EW-363595	⚠ AC CORD 200 1165BVFF B070 A J
7-6A	EW-363659	⚠ AC CORD 200 0129AVFF B070 A U/T
7-6B	EW-363801	⚠ AC CORD 200 0238PSPT1 B070 A UC
7-6C	EW-363672	⚠ AC CORD 200 0364 LCFL B070 A EV
7-6D	EW-363684	⚠ AC CORD 200LCFL B070 A B
7-6E	EW-363698	⚠ AC CORD 200 0436 LCFL B070 A S
7-7	EW-365949	CORD SAE-051 (EXCEPT A)
7-7A	EW-365948	CORD SAE-050 (UL) (A)
7-8x	ZS-336388	PT BR26 × 06STL CMT (HOLDER LCD FIX)
7-9	MZ-362601	JOINT POWER
7-10	ZS-320906	ST BR30 × 06STL CMT (COVER UPPER FIX)
7-11	ZS-345272	ST BR30 × 06STL BNI (COVER UPPER FIX)
7-12	SZ-362620	FILTER LCD
7-13	SZ-359773	HOLDER LCD
7-T901	BT-361202	⚠ TRANS POWER P2005-J (J)
7-T901A	BT-361201	⚠ TRANS POWER P2005-U/T (U)
7-T901B	BT-361204	⚠ TRANS POWER P2005-A, C (C, A)
7-T901C	BT-361205	⚠ TRANS POWER P2005-E, V (E)
7-T901D	BT-361206	⚠ TRANS POWER P2005-B, S (B, S)
7-SW901	ES-357947	⚠ SW PUSH A2B-1A (U, J, E, B, S)
7-SW901A	ES-357876	⚠ SW PUSH A2B-1A (C, A)
	MAIN PC BOARD	
3-J1	EJ-362303	DIN J TPX3204-01-030 8P

FINAL ASSEMBLY BLOCK


7
AKAI
COMPACT DISC PLAYER CD-A30
DIGITAL
DISPLAY
REPEAT
CLEAR
MEMORY
8
6
10
1
4
5

8. FINAL ASSEMBLY BLOCK

REF. NO.	PART NO.	DESCRIPTION
8-1	BD-B362603A1	PANEL FRONT PART
8-1B	BD-B362603B1	PANEL FRONT-B PART
8-2x	ZS-320906	ST BR30 × 06STL CMT (PANEL FRONT FIX)
8-3x	ZS-200676	T2CTS30 × 06STL CMT (PANEL FRONT FIX)
8-4	SK-362606A	KNOB (C)
8-4B	SK-362606B	KNOB (C)-B
8-5	SK-362607A	KNOB (D)
8-5B	SK-362607C	KNOB (D)-B
8-6	SK-362609A	KNOB POWER
8-6B	SK-362609B	KNOB POWER-B
8-7	SP-362613A	COVER UPPER
8-7B	SP-362613B	COVER UPPER-B
8-8A	SP-362611A	PANEL TRAY CD-A30 (J)
8-8B	SP-362611B	PANEL TRAY CD-A30 (J)-B
8-8C	SP-362611C	PANEL TRAY CD-A30
8-8D	SP-362611D	PANEL TRAY CD-A30-B
8-9x	ZS-350934	PT BR30 × 08STL BNI (PANEL TRAY FIX)
8-10	SZ-364521	CAP INSULATOR (J)

Symbol for color variation
Non: Standard color
B: Black

INDEX

PART NO.	REF. NO.
BA-P2005A020F	2-1A
BA-P2005A020G	2-1
BA-P2005A020H	2-1B
BA-P2005A020J	2-1C
BA-P2005A090A	2-2
BD-B362603A1	8-1
BD-B362603B1	8-1B
BM-P2005A110A	1-M903
BM-P2005A140A	1-M902
BM-361225	1-M901
BO-359294	1-15
BT-361201	7-T901A
BT-361202	7-T901
BT-361204	7-T901B
BT-361205	7-T901C
BT-361206	7-T901D
EC-305428	3-C101
EC-307684	3-C38
EC-320548	3-C90
EC-338411	3-C90A
EC-345724	3-C71
EC-345724	3-C69
EC-347263	3-C67
EC-350672	3-C68
EC-361245	3-C70
EC-361246	3-C72
EC-362234	3-C92
EC-362235	3-C108
EC-362258	3-C77
EC-362258	3-C74
EC-362734	3-C65
ED-201581	3-D20
ED-300035	3-D2
ED-301911	3-D18
ED-301911	3-D21
ED-306109	3-D11
ED-306109	3-D10
ED-306109	3-D12
ED-319167	3-D19
ED-331617	3-D5
ED-331617	3-D6
ED-331617	3-D7
ED-331617	3-D17
ED-331617	3-D8
ED-344280	3-D14
ED-344280	3-D13
ED-344280	3-D1
ED-344280	3-D4
ED-344280	3-D9
ED-353692	3-D15
ED-353692	3-D16
EF-601964	3-F1
EI-304657	3-IC13
EI-330352	3-IC11
EI-337360	3-IC2
EI-337360	3-IC1
EI-349372	3-X3
EI-349719	3-IC6
EI-349719	3-IC3
EI-355863	3-IC15
EI-361222	3-X1
EI-361223	3-X2
EI-361230	6-IC1
EI-361232	3-IC7
EI-361233	3-IC8
EI-361234	3-IC9
EI-361235	3-IC10
EI-361237	3-IC14
EI-362588	3-IC4
EI-362588	3-IC5
EI-362736	3-IC12
EJ-362303	3-J1
EL-361231	6-IN2
EM-361229	6-IN1
EO-338112	3-L3
EO-345902	3-L2
EO-345913	3-L1
EO-361227	3-VL1
EO-362920	3-VL2
EO-362921	3-VL3
EO-362922	3-VL4
ES-344257	1-SW3
ES-344274	3-VS1
ES-349474	4-TS10
ES-349474	4-TS9
ES-349474	4-TS6
ES-349474	4-TS4
ES-349474	4-TS7
ES-349474	4-TS1
ES-349474	4-TS5
ES-349474	4-TS8
ES-349474	4-TS3
ES-349474	4-TS2
ES-349474	5-TS12
ES-349474	5-TS11
ES-355842	1-SW1
ES-357876	7-SW901A
ES-357947	7-SW901
ES-362933	1-SW2
ET-200986	3-TR10
ET-200986	3-TR4
ET-308141	3-TR31
ET-308141	3-TR27
ET-308141	3-TR3
ET-308141	3-TR7
ET-308141	3-TR6
ET-308141	3-TR5
ET-308141	3-TR16
ET-308472	3-TR25
ET-308472	3-TR18
ET-310148	3-TR1
ET-310148	3-TR8
ET-310148	3-TR12
ET-318237	3-TR13
ET-318237	3-TR11
ET-322598	3-TR9
ET-322598	3-TR2
ET-345625	3-TR22
ET-345626	3-TR23
ET-345626	3-TR24
ET-349081	3-TR28
ET-349081	3-TR26
ET-349081	3-TR20
ET-349081	3-TR21
ET-349718	3-TR29
ET-349718	3-TR30
ET-349718	3-TR17
ET-354841	3-TR15
ET-354897	3-TR19
ET-357845	3-TR14
EV-356577	3-VR5
EV-356583	3-VR1
EV-357619	3-VR2
EV-357619	3-VR3
EV-358829	3-VR4
EW-363595	7-6
EW-363659	7-6A
EW-363672	7-6C
EW-363684	7-6D
EW-363698	7-6E
EW-363801	7-6B
EW-365948	7-7A
EW-365949	7-7
EZ-631945	7-5
MB-362932	1-8
MB-363112	1-26
MH-639281	1-36
ML-359833	1-30
MR-345158	1-29
MR-352158	1-6
MS-351813A	1-18
MS-359759	1-16
MV-368886	1-10
MZ-351814	1-17
MZ-359760	1-20
MZ-359761	1-21
MZ-359762	1-23
MZ-359766	1-37
MZ-359767	1-2
MZ-359768	1-4
MZ-359769	1-5
MZ-359836	1-19
MZ-359837	1-35
MZ-359839	1-32
MZ-361943	1-34
MZ-362601	7-9
MZ-362855	1-38
MZ-362964	1-13
SA-349332	7-1A
SA-364520	7-1
SC-359770	1-33
SC-361087	1-27
SK-362606A	8-4
SK-362606B	8-4B
SK-362607A	8-5
SK-362607C	8-5B
SK-362609A	8-6
SK-362609B	8-6B
SP-362611A	8-8A
SP-362611B	8-8B
SP-362611C	8-8C
SP-362611D	8-8D
SP-362613A	8-7
SP-362613B	8-7B
SP-362614A	7-3A
SP-362614B	7-3
SP-362614C	7-3B
SP-362614D	7-3C
SP-362614E	7-3D
SZ-359773	7-13
SZ-359775	1-28
SZ-362620	7-12
SZ-364521	8-10
TC-676844	1-24
ZG-357808	1-22
ZG-351817	1-11
ZG-359830	1-31
ZG-366252	1-39
ZS-200676	8-3x
ZS-320906	7-10
ZS-320906	8-2x
ZS-336388	7-8x
ZS-344914	7-2
ZS-345272	7-11
ZS-350934	8-9x
ZS-354403	7-4
ZS-354869	7-2A
ZS-366253	1-1
ZS-432843	1-3
ZS-592378	1-9
ZS-608095	1-12
ZS-624870	1-14
ZW-270088	1-25
ZW-357164	1-7

AKAI

MODEL CD-A30

SCHEMATIC DIAGRAM
AND PC BOARD

TABLE OF CONTENTS

1. SCHEMATIC DIAGRAM OF ICs 3
2. BLOCK DIAGRAM 9
3. SCHEMATIC DIAGRAM 10
4. PC BOARD 11

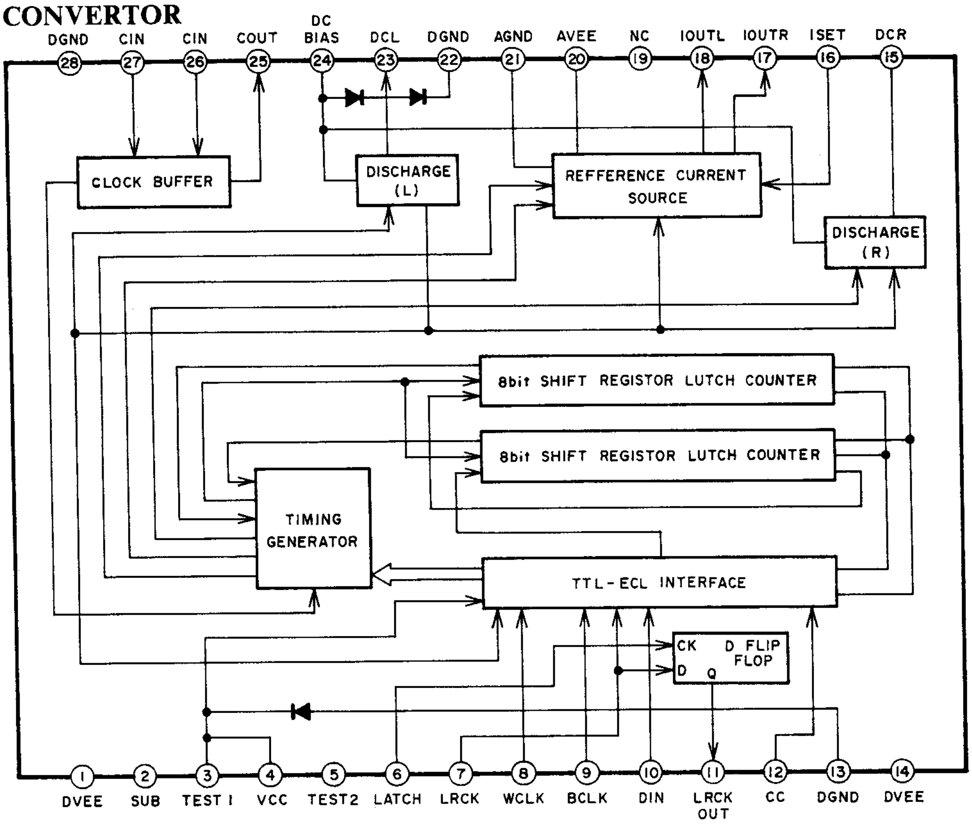
PURPOSE OF EACH IC's

IC No.	NAME OF IC's	PURPOSE
IC1, 2	MPC4082C	DUAL LOW NOISE OPERATIONAL AMPLIFIER
IC3, 6	M5218P	DUAL LOW NOISE OPERATIONAL AMPLIFIER
IC4, 5	M5238P	DUAL LOW NOISE OPERATIONAL AMPLIFIER
IC7	CX23035	EFM DEMODULATOR, ERROR DETECTION AND CORRECTION FRAME SYNC DETECTION, SUB CODE DETECTION AND DEMODULATION, SPINDLE MOTOR SERVO
IC8	CX20109	RF AMPLIFIER
IC9	CX20108	SERVO SIGNAL PROCESSER
IC10	CX20133	16 BIT D/A CONVERTOR
IC11	BA6109	LOADING MOTOR CONTROL
IC12	CXK5816P-15L	16K BIT RANDAM ACCESS MEMORY
IC13	TC4011BP	NAND GATE
IC14	M50745	SYSTEM CONTROL (8 BIT MICROCOMPUTER)
IC15	MB84053B	TRIPE-2 CHANNEL MULTIPLEXER/DEMULTIPLEXER

IC BLOCK DIAGRAM

CX20133

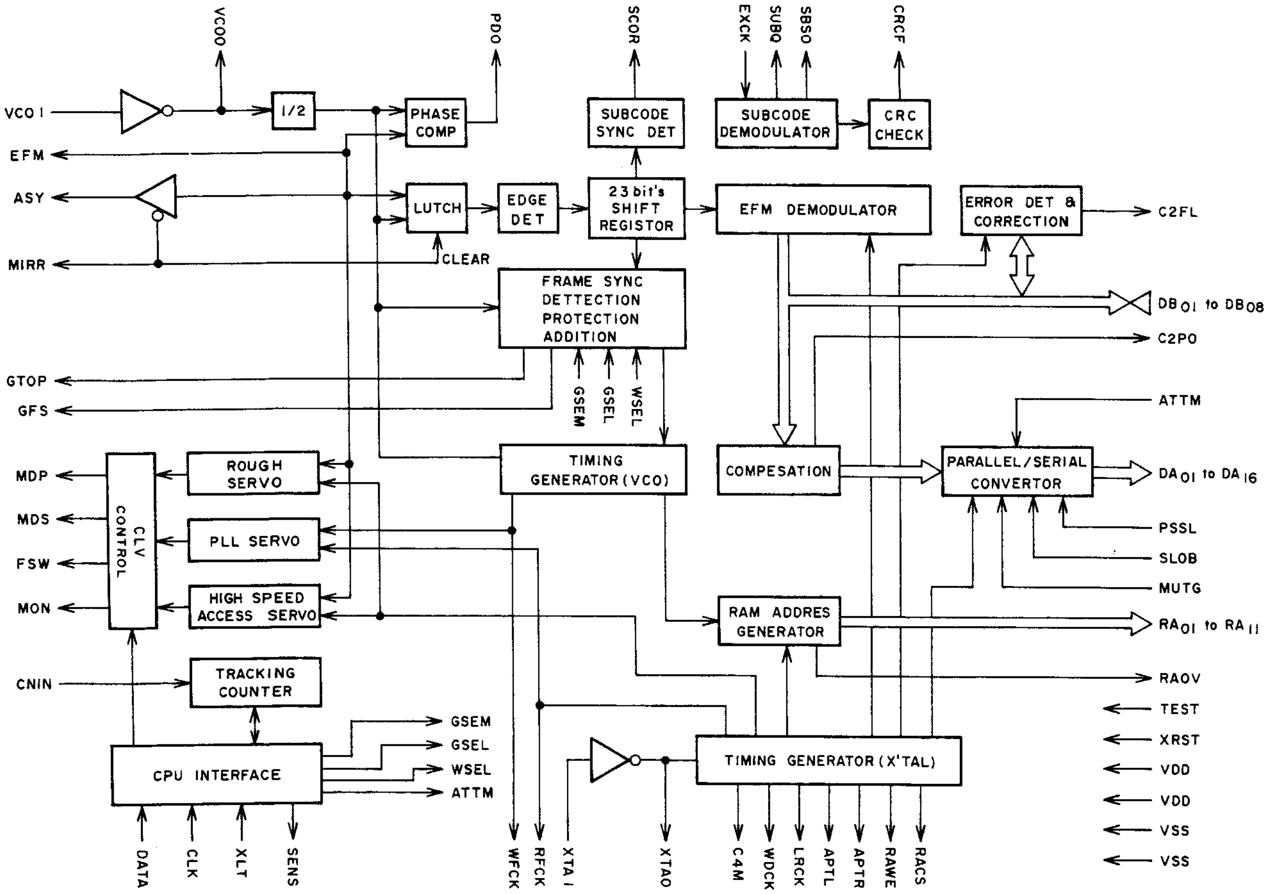
16 Bits D/A CONVERTOR



DGND
CIN
CIN
COUT
DC BIAS
DCL
DGND
AGND
AVEE
NC
IOUTL
IOUTR
ISET
DCR
28
27
26
25
24
23
22
21
20
19
18
17
16
15
CLOCK BUFFER
DISCHARGE (L)
REFFERENCE CURRENT SOURCE
DISCHARGE (R)
8bit SHIFT REGISTOR LUTCH COUNTER
8bit SHIFT REGISTOR LUTCH COUNTER
TIMING GENERATOR
TTL-ECL INTERFACE
CK D FLIP FLOP
D Q
1
2
3
4
5
6
7
8
9
10
11
12
13
14
DVEE
SUB
TEST I
VCC
TEST2
LATCH
LRCK
WCLK
BCLK
DIN
LRCK OUT
CC
DGND
DVEE

CX20133

Pin No.	Symbol	Description	
1	DVEE	-5V	
2	SUB	Substrate -5V, same level as DVEE	
3	TEST 1	NC	
4	VCC	+5V	
5	TEST 2	NC	
6	LATCH	Clock input for D-Flip Flop	
7	LRCK	L-ch, R-ch clock, "Low" R-ch, "High"L-ch	
8	WCLK	Word Clock	
9	BCLK	Bit Clock	
10	DIN	Data In	
11	LRCK OUT	L-ch, R-ch Clock Out	
12	CC	Conversion command input	
13	DGND	Digital GND	
14	DVEE	-5V	
15	DCR	R-ch discharge control signal out	LRCK"HIGH"
16	ISET	Current set control signal for IOUTR, IOUTL	
17	IOUTR	R-ch current signal OUT	LRCK "HIGH"
18	IOUTL	L-ch current signal OUT	LRCK "LOW"
19	—	NC	
20	AVEE	-5V	
21	AGND	Analog GND	
22	DGND	Digital GND	
23	DCL	L-ch discharge control signal out	LRCK "LOW"
24	DC BIAS	DC Bias for discharge (2.5 mA)	
25	COUT	Clock Out	
26	CIN	Clock In	
27	$\overline{\text{CIN}}$	Clock In	
28	DGND	Digital GND	


VCOO
PDO
SCOR
EXCK
SUBQ
SBSO
CRCF
VCO I
1/2
PHASE COMP
SUBCODE SYNC DET
SUBCODE DEMODULATOR
CRC CHECK
EFM
ASY
MIRR
LUTCH
EDGE DET
23 bit's SHIFT REGISTOR
EFM DEMODULATOR
ERROR DET & CORRECTION
C2FL
CLEAR
FRAME SYNC DETTECTION PROTECTION ADDITION
DB01 to DB08
C2PO
GTOP
GFS
GSEM
GSEL
WSEL
ATTM
MDP
MDS
FSW
MON
CLV CONTROL
ROUGH SERVO
PLL SERVO
HIGH SPEED ACCESS SERVO
TIMING GENERATOR (VCO)
COMPESATION
PARALLEL/SERIAL CONVERTOR
DA01 to DA16
PSSL
SLOB
MUTG
RAM ADDRES GENERATOR
RA01 to RA11
RAOV
CNIN
TRACKING COUNTER
TEST
XRST
VDD
VDD
VSS
VSS
CPU INTERFACE
GSEM
GSEL
WSEL
ATTM
TIMING GENERATOR (X'TAL)
DATA
CLK
XLT
SENS
WFCK
RFCK
XTA I
XTAO
C4M
WDCK
LRCK
APTL
APTR
RAWE
RACS

CX23035

Pin No.	Symbol	I/O	Description
1	FSW	O	Spindle motor filter switching control
2	MON	O	Spindle motor ON/OFF control
3	MDP	O	Spindle motor speed and phase control
4	MDS	O	Spindle motor speed control
5	EFM	I	EFM signal input
6	ASY	O	EFM signal slice level control
7	MIRR	I	MIRR signal input "L" on track "H" mirror
8	VCOO	O	VCO output f = 8.6436 MHz
9	VCOI	I	VCO input
10	TEST	I	0V (GND)
11	PDO	O	Phase comp. output
12	VSS	—	GND (0V)
13	CLK	I	Clock signal from CPU
14	XLT	I	Lutch signal from CPU
15	DATA	I	Serial data from CPU
16	XRST	I	RESET input "L" reset
17	CNIN	I	Tracking pulse input (+5V)
18	SENS	O	Output of CPU interface
19	MUTG	I	Mute control signal input
20	CRCF	O	CRC check output of the subcode Q "L" detect error
21	EXCK	I	Not used
22	SBSO	O	Not used
23	SUBQ	O	Subcode Q output
24	SCOR	O	Subcode sync detection output
25	WFCK	O	Not used (Wfrite frame clock)
26	RFCK	O	Not used (Read frame clock)
27	GTOP	O	Frame sync detection output
28	GFS	O	"H" frame sync lock "L" frame sync unlock

Pin No.	Symbol	I/O	Description	
29	DB08	I/O	Data 8 (MSB)	Data Bus line for the EXT. RAM (CXK5816P-15L)
30	DB07	I/O	Data 7	
31	DB06	I/O	Data 6	
32	DB05	I/O	Data 5	
33	VDD	—	+5V	
34	DB04	I/O	Data 4	Data Bus line for the EXT. RAM (CXK5816P-15L)
35	DB03	I/O	Data 3	
36	DB02	I/O	Data 2	
37	DB01	I/O	Data 1 (LSB)	
38	RA01	O	ADDR01 (LSB)	Address signal output for the EXT. RAM (CXK5816P-15L)
39	RA02	O	ADDR02	
40	RA03	O	ADDR03	
41	RA04	O	ADDR04	
42	RA05	O	ADDR05	
43	RA06	O	ADDR06	
44	RA07	O	ADDR07	
45	RA08	O	ADDR08	
46	RA09	O	ADDR09	
47	RA10	O	ADDR10	
48	RA11	O	ADDR11 (MSB)	
49	RAWE	O	Write enable signal output "L" active	
50	RACS	O	Chip select signal output "L" active	
51	C4M	O	Not used	
52	VSS	—	GND (0V)	
53	XTAI	I	X'TAL OSC. input f= 8.4672 MHz	
54	XTAO	O	X'TAL OSC. output f= 8.4672 MHz	
55	C2FL	O	Monitor of error detection *	
56	C2PO	O	Not used	
57	RAOV	O	Not used	
58	SLOB	I	0V (GND)	
59	PSSL	I	0V (GND)	
60	APTR	O	Not used	
61	APTL	O	Not used	
62	DA01	O	C1F1 *	
63	DA02	O	C1F1 *	
64	DA03	O	C2F1 *	Not used
65	DA04	O	C2F2 *	Not used
66	DA05	O	UGFS	Not used
67	DA06	O	$\overline{\text{WFCK}}$ INV write frame clock signal output	
68	DA07	O	Not used FCKV 1/4 or 1/8 WFCK output	
69	DA08	O	Not used FCKX 1/4 or 1/8 RFCK output	
70	DA09	O	Not used $\overline{\text{PLCK}}$ 1/2 VCO output	
71	DA10	O	Not used $\overline{\text{LRCK}}$ INV. LRCK (Pin 80)	
72	DA11	O	Not used C4LR 176.4 kHz strobe signal output	
73	VDD	—	+5V	
74	DA12	O	Not used $\overline{\text{DENL}}$ L-ch serial data enable signal	
75	DA13	O	Not used $\overline{\text{DENR}}$ R-ch serial data enable signal	
76	DA14	O	$\overline{\text{C210}}$ INV. C210 (Pin 77)	
77	DA15	O	Not used C210 Bit clock	f= 2.1168 MHz
78	DA16	O	Data output	
79	WDCK	O	Worde clock output	88.2 kHz strobe signal
80	LRCK	O	L-ch, R-ch clock output	44.1 kHz strobe signal

* Monitor Signal refer to Fig. 1 & Fig. 2

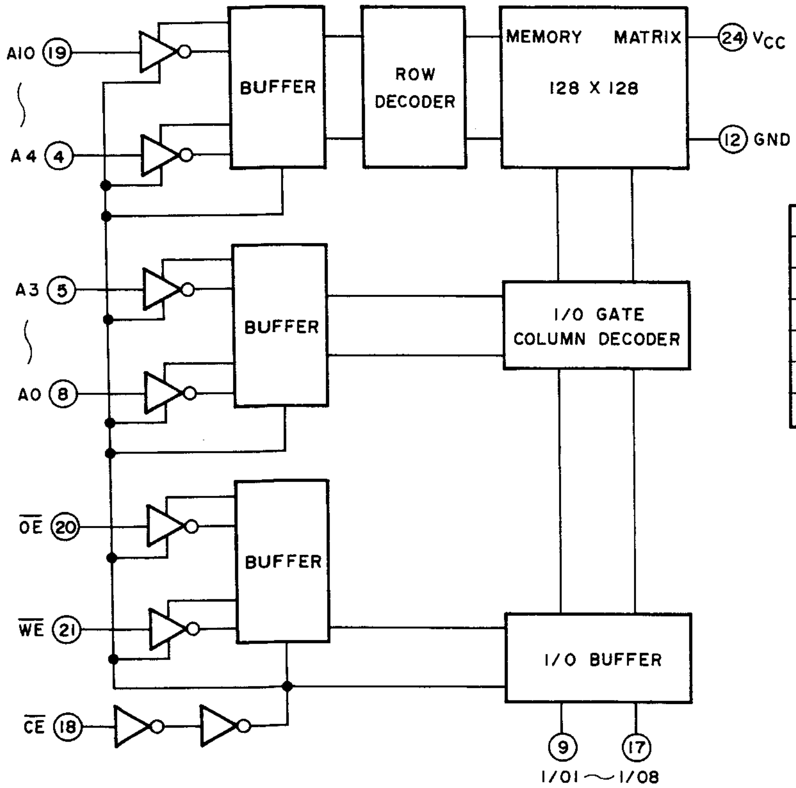
C1F1	C1F2	C1 Correction
O	O	No error
I	O	Signal error correction
O	I	Double error correction
I	I	Irretrievable error

Fig. 1

C2F1	C2F2	C2FL	C2 Correction
O	O	O	No error
I	O	O	Signal error correction
O	I	O	Double error correction
I	I	I	Irretrievable error

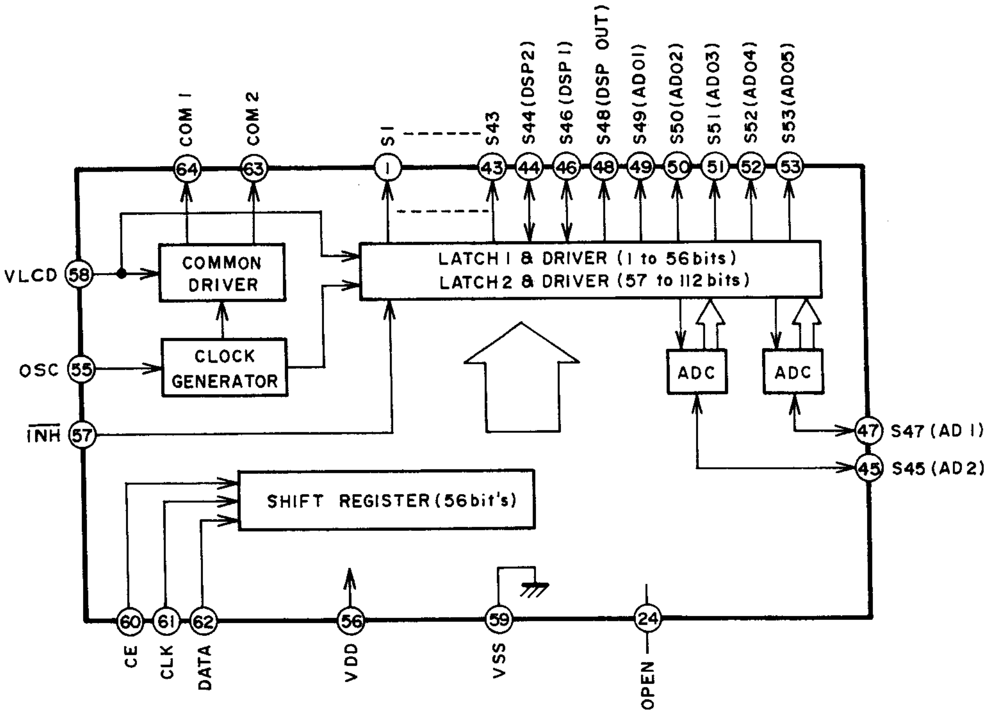
Fig. 2

CXK5816P-15L


A10 ⑲
A4 ④
A3 ⑤
A0 ⑧
OE ⑳
WE ㉑
CE ⑱
BUFFER
BUFFER
BUFFER
ROW DECODER
MEMORY MATRIX
128 X 128
㉔ Vcc
⑫ GND
I/O GATE
COLUMN DECODER
I/O BUFFER
⑨ ⑰
I/O1 ~ I/O8

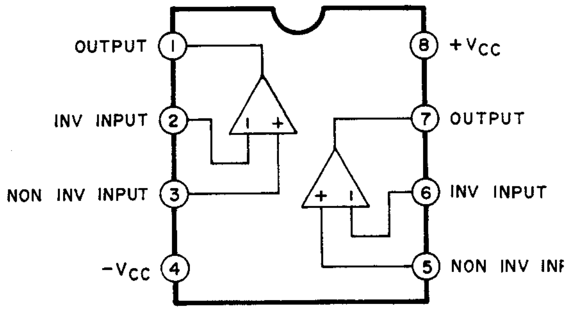
A0 ~ A10	Address input
I/O1 ~ I/O8	Data IN/OUT
$\overline{\text{CE}}$	Chip enable signal input
$\overline{\text{WE}}$	Write enable signal input
$\overline{\text{OE}}$	Output enable signal input
Vcc	+5V
GND	GND

LC7580

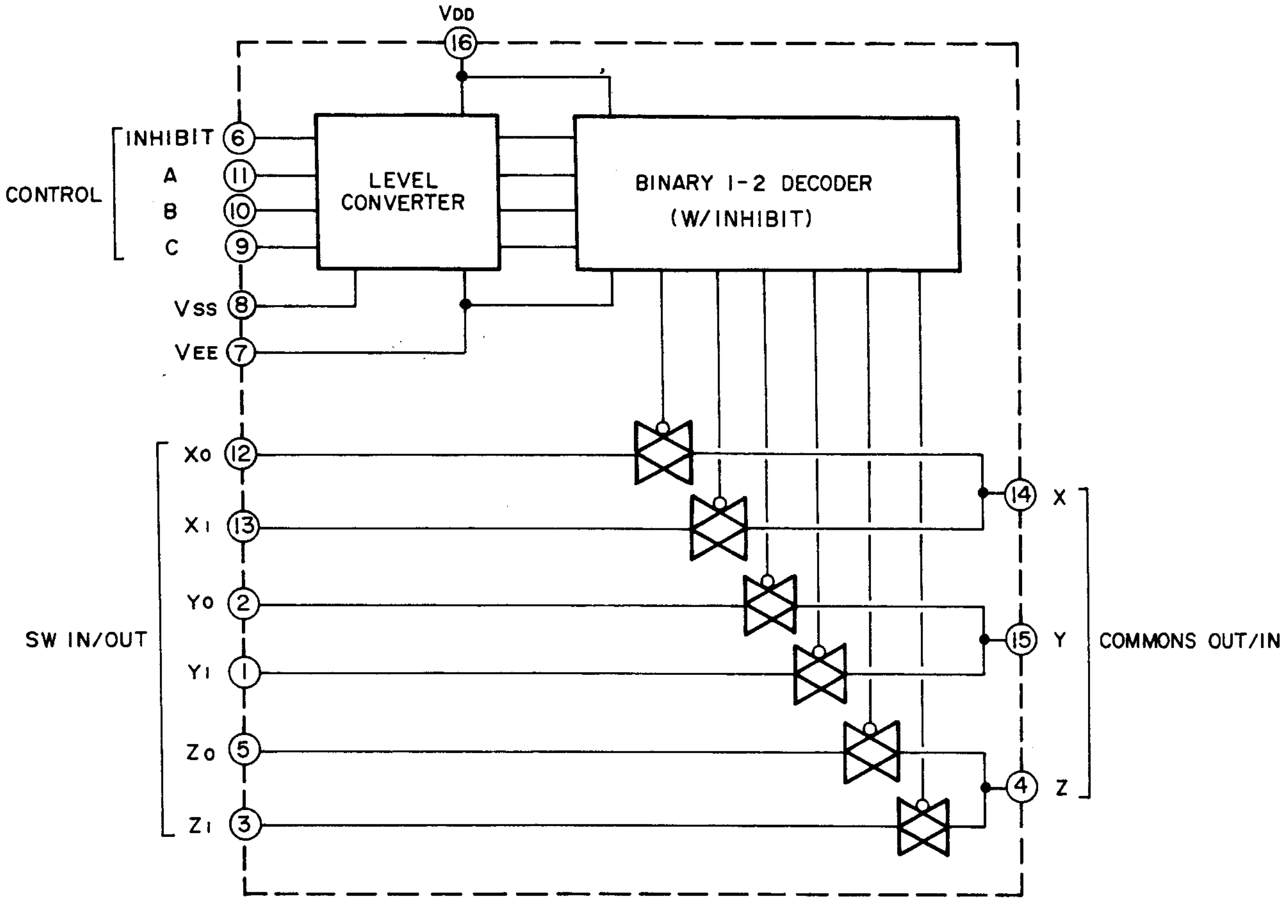

COM 1
COM 2
S 1
S43
S44(DSP2)
S46(DSP 1)
S48(DSP OUT)
S49(AD01)
S50(AD02)
S51(AD03)
S52(AD04)
S53(AD05)
64
63
1
43
44
46
48
49
50
51
52
53
VLCD
58
COMMON DRIVER
LATCH 1 & DRIVER (1 to 56bits)
LATCH2 & DRIVER (57 to 112bits)
OSC
55
CLOCK GENERATOR
ADC
ADC
INH
57
47
S47 (AD 1)
45
S45 (AD2)
SHIFT REGISTER (56bit's)
60
61
62
56
59
24
CE
CLK
DATA
VDD
VSS
OPEN

S1 ~ S43	Segment drive Output
S46 (DSP), S44 (DSP2)	Segment drive Output/DSP Input
S47 (AD1), S45 (AD2)	Segment drive Output/AD Input
S48 (DSP OUT)	Segment drive Output/DSP Output
S49 ~ S53	Segment drive Output/AD Output
COM 1, 2	Common Output
V LCD	LCD Bias voltage
OSC	OSC control
CE, CLK. Data	Serial data Input
VSS, VDD	GND, +5V
$\overline{\text{INH}}$	Display OFF signal Input
Open	Not used

M5218P, M5238P, μPC4082C


OUTPUT
1
INV INPUT
2
NON INV INPUT
3
-Vcc
4
8
+Vcc
7
OUTPUT
6
INV INPUT
5
NON INV INF

MB84053

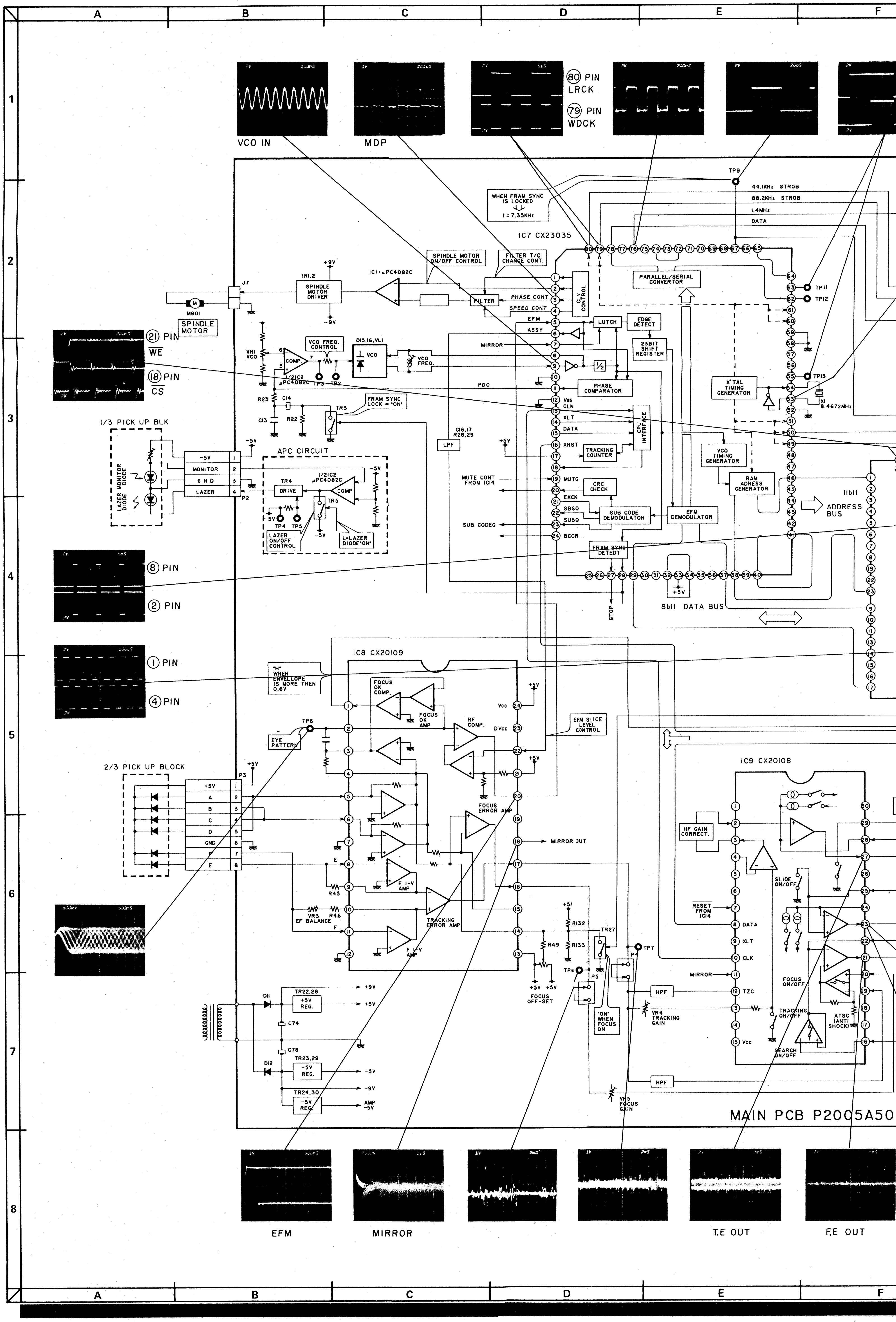

VDD
16
INHIBIT 6
A 11
B 10
C 9
CONTROL
LEVEL CONVERTER
BINARY 1-2 DECODER (W/INHIBIT)
Vss 8
VEE 7
X0 12
X1 13
Y0 2
Y1 1
Z0 5
Z1 3
SW IN/OUT
14 X
15 Y
4 Z
COMMONS OUT/IN

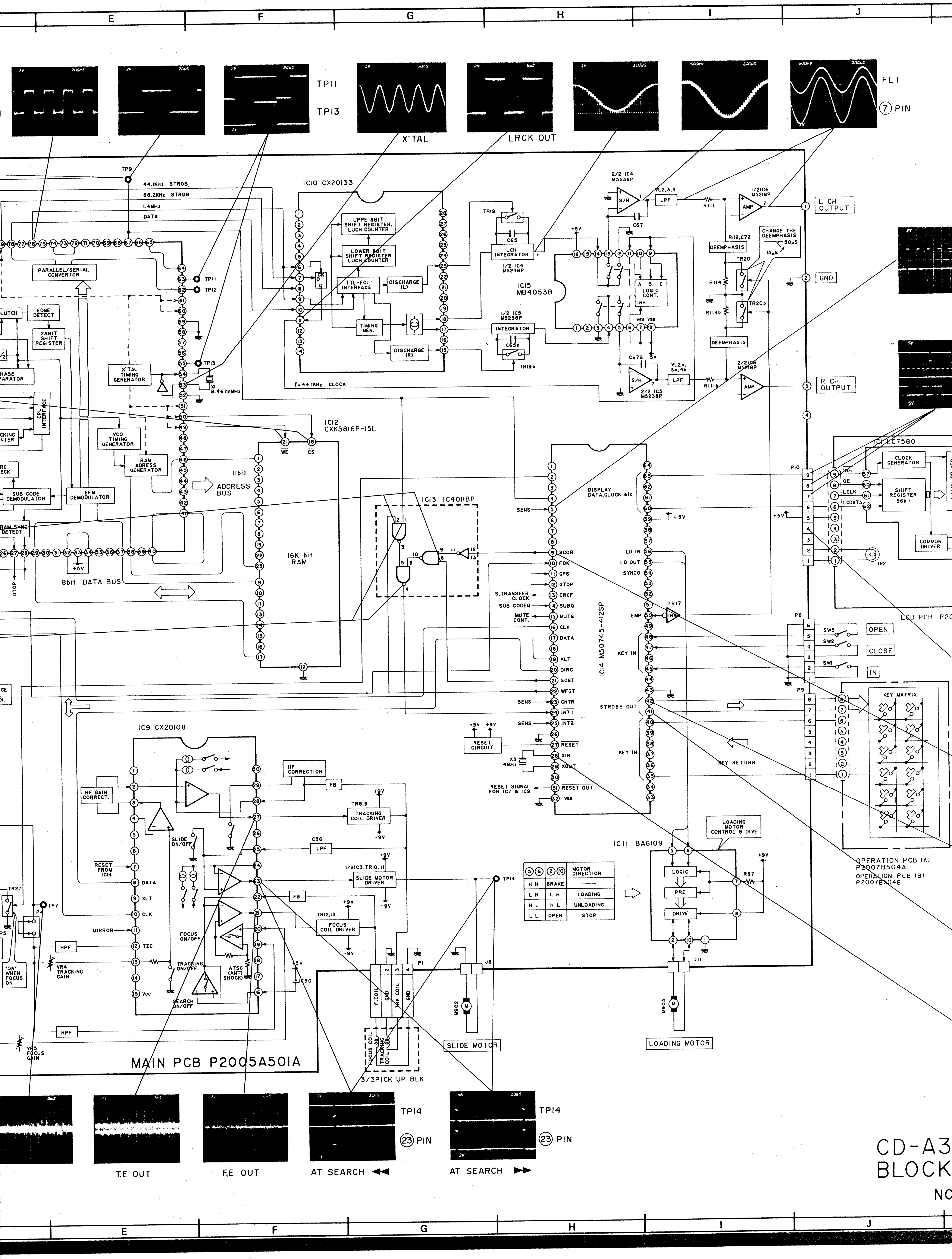
Controls				"ON" channel		
INH	C	B	A			
0	0	0	0	Z_0	Y_0	X_0
0	0	0	1	Z_0	Y_0	X_1
0	0	1	0	Z_0	Y_1	X_0
0	0	1	1	Z_0	Y_1	X_1
0	1	0	0	Z_1	Y_0	X_0
0	1	0	1	Z_1	Y_0	X_1
0	1	1	0	Z_1	Y_1	X_0
0	1	1	1	Z_1	Y_1	X_1
1	–	–	–	None		

M50745

Pin No.	Symbol	Description
1	$P4_2$	Not used
2	$P4_1$	
3	$P4_0$	Not used
4	$P2_7$	Write focus clock input
5	$P2_6$	Sens signal input
6	NC	Not used

Pin No.	Symbol	Description
7	NC	Not used
8	NC	Not used
9	SCOR	Subcode detection signal input
10	FOK	Focus servo “OK” signal input
11	GFS	“H” frame sync lock “L” frame unlock
12	GTOP	Frame sync detection signal input
13	CRCF	CRC check signal input
14	SUBQ	Subcode Q input
15	MUTG	Mute control signal output
16	CLK	Clock signal output
17	DATA	Data signal output
18	SIN	Not used
19	XLT	Lutch signal output
20	DIRC	Track jump control signal output “H” normal, “L” track jump
21	SCGT	Subcode gate signal output
22	WFGT	Write frame gate signal output
23	CNTR	Sens signal input from IC7
24	$\overline{\mathrm{INT}_1}$	Sens signal input from IC13
25	$\overline{\mathrm{INT}_2}$	Sens signal input from IC7
26	CNVss	0V (GND)
27	$\overline{\mathrm{RESET}}$	Reset signal input
28	XIN	Clock input
29	XOUT	Clock output
30	ϕ	Not used
31	$\overline{\mathrm{RESET\ OUT}}$	Reset signal output
32	Vss	0V (GND)
33	$\mathrm{P5_7}$	Not used
34	$\mathrm{P5_6}$	Not used
35	$\mathrm{P5_5}$	Key input (Skip ⏮, display)
36	$\mathrm{P5_4}$	Key input (Stop, skip ⏭)
37	$\mathrm{P5_3}$	Key input (Search ⏪, repeat)
38	$\mathrm{P5_2}$	Key input (Open/Close, Clear)
39	$\mathrm{P5_1}$	Key input (Search ⏩, MA ⟷ MB)
40	$\mathrm{P5_0}$	Key input (Play/pause, Program)
41	$\mathrm{PI_7}$	Data strobe out for operation key
42	$\mathrm{PI_6}$	
43	$\mathrm{PI_5}$	0V (GND)
44	$\mathrm{PI_4}$	Not used
45	$\mathrm{PI_3}$	Pick up block in switch input
46	$\mathrm{PI_2}$	Not used
47	$\mathrm{PI_1}$	Disk tray close switch input
48	$\mathrm{PI_0}$	Disk tray open switch input
49	LASER	Laser control signal output
50	EMP	Emphasis control signal output
51	KICK	Not used
52	$\mathrm{P\phi_4}$	Not used
53	SYNC 1	Not used
54	SYNC 0	Synchronize signal output
55	LD OUT	Loading motor out control signal
56	LD IN	Loading motor in control signal
57	NC	Not used
58	NC	Not used
59	VCC	+5V
60	$\overline{\mathrm{INH}}$	Display off signal output
61	OE	Serial data output for display
62	LCLK	
63	LCDATA	
64	$\mathrm{P4_3}$	Not used

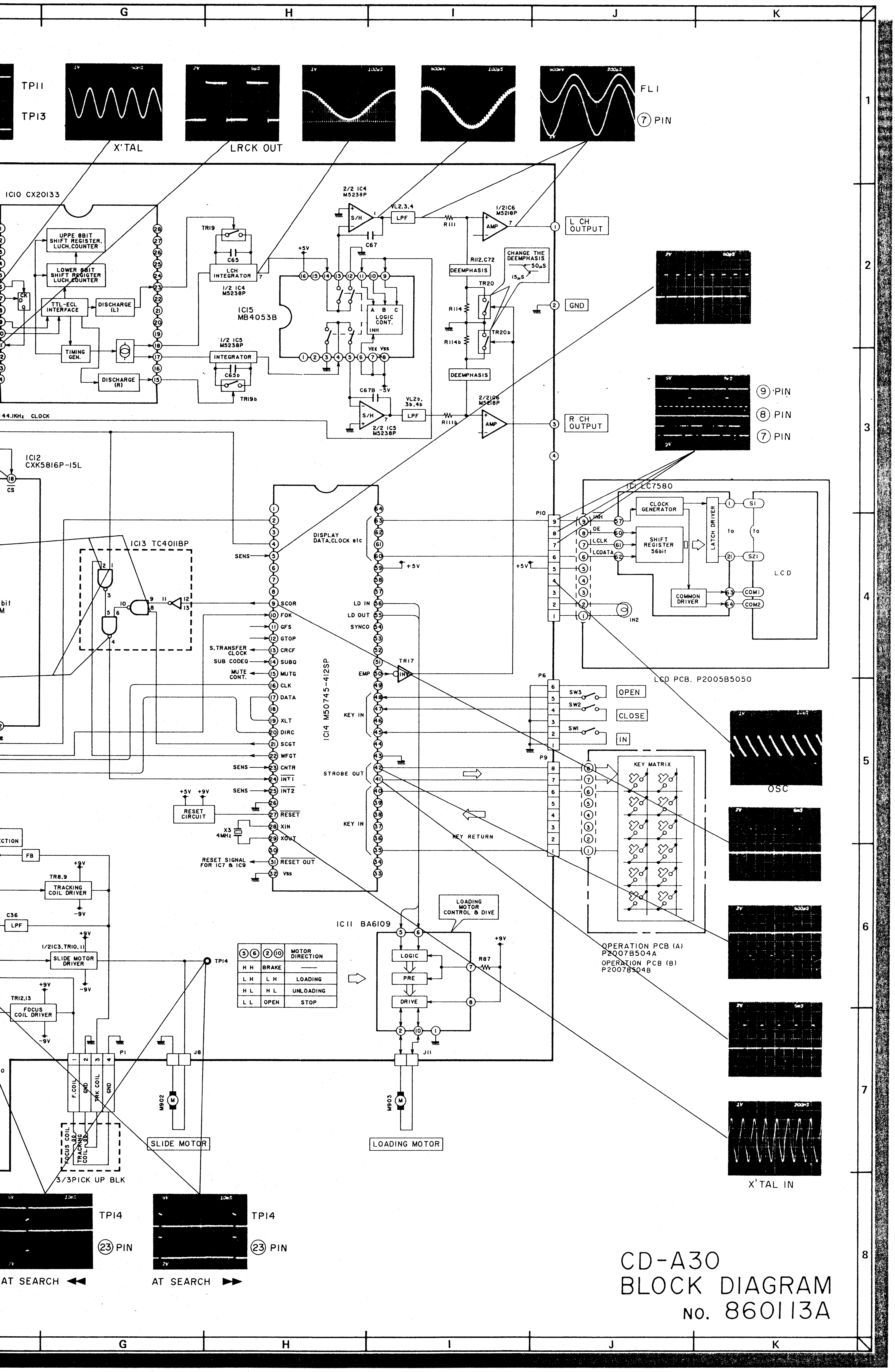
A
B
C
D
E
F
1
2
3
4
5
6
7
8
VCO IN
MDP
(80) PIN
LRCK
(79) PIN
WDCK
TP9
44.1KHz STROB
88.2KHz STROB
1.4MHz
DATA
WHEN FRAM SYNC IS LOCKED
f = 7.35KHz
IC7 CX23035
SPINDLE MOTOR ON/OFF CONTROL
FILTER T/C CHANGE CONT.
PARALLEL/SERIAL CONVERTOR
TP11
TP12
TRI,2
SPINDLE MOTOR DRIVER
IC1 : µPC4082C
+9V
-9V
J7
FILTER
PHASE CONT
SPEED CONT
CLV CONTROL
M
M901
SPINDLE MOTOR
EFM
ASSY
LUTCH
EDGE DETECT
23BIT SHIFT REGISTER
MIRROR
1/2
PHASE COMPARATOR
PDO
VCO FREQ. CONTROL
D15,16,VL1
VCO
VCO FREQ.
VR1 VCO
COMP
1/2IC2 µPC4082C
TP3
TP2
R23
C14
C13
R22
TR3
FRAM SYNC LOCK → "ON"
X'TAL TIMING GENERATOR
TP13
X1 8.4672MHz
(21) PIN
WE
(18) PIN
CS
1/3 PICK UP BLK
LAZER MONITOR DIODE
-5V
MONITOR
GND
LAZER
P2
APC CIRCUIT
TR4
DRIVE
1/2IC2 µPC4082C
COMP
TR5
TP4
TP5
LAZER ON/OFF CONTROL
L=LAZER DIODE"ON"
C16,17 R28,29
LPF
+5V
Vss
CLK
XLT
DATA
XRST
TRACKING COUNTER
CPU INTERFACE
VCO TIMING GENERATOR
RAM ADRESS GENERATOR
MUTE CONT FROM IC14
MUTG
CRC CHECK
EXCK
SBSO
SUBQ
SUB CODE DEMODULATOR
EFM DEMODULATOR
SUB CODEQ
BCOR
FRAM SYNC DETEDT
11bit
ADDRESS BUS
(8) PIN
(2) PIN
GTOP
+5V
8bit DATA BUS
(1) PIN
(4) PIN
IC8 CX20109
"H" WHEN ENVELLOPE IS MORE THAN 0.6V
FOCUS OK COMP.
FOCUS OK AMP
RF COMP.
Vcc
DVcc
EFM SLICE LEVEL CONTROL
TP6
EYE PATTERN
2/3 PICK UP BLOCK
P3
+5V
A
B
C
D
GND
F
E
FOCUS ERROR AMP
MIRROR OUT
E I-V AMP
R45
VR3
R46
EF BALANCE
TRACKING ERROR AMP
F I-V AMP
R132
R133
R49
TR27
TP7
P4
P5
TP8
FOCUS OFF-SET
"ON" WHEN FOCUS ON
HPF
VR4 TRACKING GAIN
VR5 FOCUS GAIN
IC9 CX20108
HF GAIN CORRECT.
SLIDE ON/OFF
RESET FROM IC14
DATA
XLT
CLK
MIRROR
TZC
FOCUS ON/OFF
TRACKING ON/OFF
ATSC (ANTI SHOCK)
SEARCH ON/OFF
Vcc
D11
TR22,28
+5V REG.
+9V
C74
C78
D12
TR23,29
-5V REG.
-5V
-9V
TR24,30
AMP -5V
MAIN PCB P2005A50
EFM
MIRROR
T.E OUT
F.E OUT


E
F
G
H
I
J
TP11
TP13
X'TAL
LRCK OUT
FL1
⑦ PIN
TP9
44.1KHz STROB
88.2KHz STROB
1.4MHz
DATA
IC10 CX20133
UPPE 8BIT SHIFT REGISTER, LUCH, COUNTER
LOWER 8BIT SHIFT REGIGTER LUCH, COUNTER
TTL-ECL INTERFACE
DISCHARGE (L)
DISCHARGE (R)
TIMING GEN.
f=44.1KHz CLOCK
TR19
C65
LCH INTEGRATOR
1/2 IC4 M5238P
1/2 IC5 M5238P
INTEGRATOR
C65b
TR19b
2/2 IC4 M5238P
S/H
C67
VL2,3,4
LPF
R111
1/2IC6 M5218P
AMP
L CH OUTPUT
+5V
IC15 MB4053B
LOGIC CONT.
INH
VEE VSS
C67B -5V
2/2 IC5 M5238P
VL2b, 3b,4b
R111b
2/2IC6 M5218P
R CH OUTPUT
R112,C72
DEEMPHASIS
CHANGE THE DEEMPHASIS
50μS
15μS
TR20
TR20b
R114
R114b
GND
PARALLEL/SERIAL CONVERTOR
TP11
TP12
TP13
LUTCH
EDGE DETECT
23BIT SHIFT REGISTER
HASE PARATOR
X'TAL TIMING GENERATOR
X1 8.4672MHz
CPU INTERFACE
CKING NTER
VCO TIMING GENERATOR
RAM ADRESS GENERATOR
RC ECK
SUB CODE DEMODULATOR
EFM DEMODULATOR
RAM SYNC DETEDT
+5V
8bit DATA BUS
GTOP
IC12 CXK5816P-15L
WE
CS
11bit ADDRESS BUS
16K bit RAM
IC13 TC4011BP
IC14 M50745-412SP
SENS
DISPLAY DATA,CLOCK etc
SCOR
FOK
GFS
GTOP
S.TRANSFER CLOCK
CRCF
SUB CODEQ
SUBQ
MUTE CONT.
MUTG
CLK
DATA
XLT
DIRC
SCGT
WFGT
CNTR
INT1
INT2
RESET CIRCUIT
+5V +9V
RESET
XIN
X3 4MHz
XOUT
RESET SIGNAL FOR IC7 & IC9
RESET OUT
Vss
LD IN
LD OUT
SYNCO
EMP
TR17
KEY IN
STROBE OUT
KEY RETURN
P10
IC1 LC7580
CLOCK GENERATOR
INH
OE
LCLK
LCDATA
SHIFT REGISTER 56bit
COMMON DRIVER
IN2
LCD PCB. P2
P6
SW3
SW2
SW1
OPEN
CLOSE
IN
P9
KEY MATRIX
OPERATION PCB (A) P2007B504A
OPERATION PCB (B) P2007B504B
IC9 CX20108
HF GAIN CORRECT.
HF CORRECTION
FB
+9V
TR8.9
TRACKING COIL DRIVER
-9V
SLIDE ON/OFF
C36
LPF
1/2IC3.TR10,11
SLIDE MOTOR DRIVER
TP14
TR12,13
FOCUS COIL DRIVER
RESET FROM IC14
DATA
XLT
CLK
MIRROR
TZC
Vcc
FOCUS ON/OFF
TRACKING ON/OFF
ATSC (ANTI SHOCK)
SEARCH ON/OFF
C50
HPF
VR4 TRACKING GAIN
"ON" WHEN FOCUS ON
TR27
TP7
P4
P5
VR5 FOCUS GAIN
P1
F.COIL
GND
TRK COIL
FOCUS COIL
TRACKING COIL
3/3PICK UP BLK
J8
M902
SLIDE MOTOR
IC11 BA6109
LOADING MOTOR CONTROL & DIVE
LOGIC
PRE
DRIVE
R87
J11
M903
LOADING MOTOR
MOTOR DIRECTION
BRAKE
LOADING
UNLOADING
OPEN
STOP
MAIN PCB P2005A501A
T.E OUT
F.E OUT
TP14
㉓ PIN
AT SEARCH ◀◀
AT SEARCH ▶▶

⑤⑥	②⑩	MOTOR DIRECTION
H H	BRAKE	——
L H	L H	LOADING
H L	H L	UNLOADING
L L	OPEN	STOP

CD-A3
BLOCK

NO


G
H
I
J
K
1
2
3
4
5
6
7
8
TP11
TP13
X'TAL
LRCK OUT
FL1
⑦ PIN
IC10 CX20133
UPPE 8BIT SHIFT REGISTER, LUCH,COUNTER
LOWER 8BIT SHIFT REGIGTER LUCH,COUNTER
CK D Q
TTL-ECL INTERFACE
DISCHARGE (L)
TIMING GEN.
DISCHARGE (R)
44.1KHz CLOCK
TR19
C65
LCH INTEGRATOR
1/2 IC4 M5238P
1/2 IC5 M5238P
INTEGRATOR
C65b
TR19b
IC15 MB4053B
LOGIC CONT.
INH
VEE VSS
+5V
2/2 IC4 M5238P
S/H
C67
VL2,3,4
LPF
R111
1/2IC6 M5218P
AMP
L CH OUTPUT
R112,C72
DEEMPHASIS
CHANGE THE DEEMPHASIS
50µS
15µS
TR20
R114
R114b
TR20b
GND
C67B -5V
VL2b,3b,4b
2/2 IC5 M5238P
R111b
2/2IC6 M5218P
R CH OUTPUT
⑨ PIN
⑧ PIN
⑦ PIN
IC12 CXK5816P-15L
CS
IC13 TC4011BP
bit
M
SENS
DISPLAY DATA,CLOCK etc
+5V
IC14 M50745-412SP
SCOR
FOK
GFS
GTOP
S.TRANSFER CLOCK
CRCF
SUB CODEQ
SUBQ
MUTE CONT.
MUTG
CLK
DATA
XLT
DIRC
SCGT
WFGT
CNTR
INT1
INT2
+5V +9V
RESET CIRCUIT
RESET
XIN
X3 4MHz
XOUT
RESET SIGNAL FOR IC7 & IC9
RESET OUT
Vss
LD IN
LD OUT
SYNCO
TR17
EMP
INV
KEY IN
STROBE OUT
KEY RETURN
P10
IC1 LC7580
INH
OE
LCLK
LCDATA
CLOCK GENERATOR
SHIFT REGISTER 56bit
LATCH DRIVER
COMMON DRIVER
S1
to
S21
COM1
COM2
LCD
IN2
LCD PCB. P2005B5050
P6
SW3
SW2
SW1
OPEN
CLOSE
IN
P9
KEY MATRIX
OSC
OPERATION PCB (A) P2007B504A
OPERATION PCB (B) P2007B504B
X'TAL IN
ECTION
FB
TR8,9
TRACKING COIL DRIVER
+9V
-9V
C36
LPF
1/2IC3,TR10,11
SLIDE MOTOR DRIVER
TP14
TR12,13
FOCUS COIL DRIVER
P1
F.COIL
GND
TRK COIL
GND
J8
M902
SLIDE MOTOR
FOCUS COIL
TRACKING COIL
3/3PICK UP BLK
IC11 BA6109
LOADING MOTOR CONTROL & DIVE
LOGIC
PRE
DRIVE
R87
J11
M903
LOADING MOTOR
TP14
㉓ PIN
AT SEARCH ◀◀
TP14
㉓ PIN
AT SEARCH ▶▶

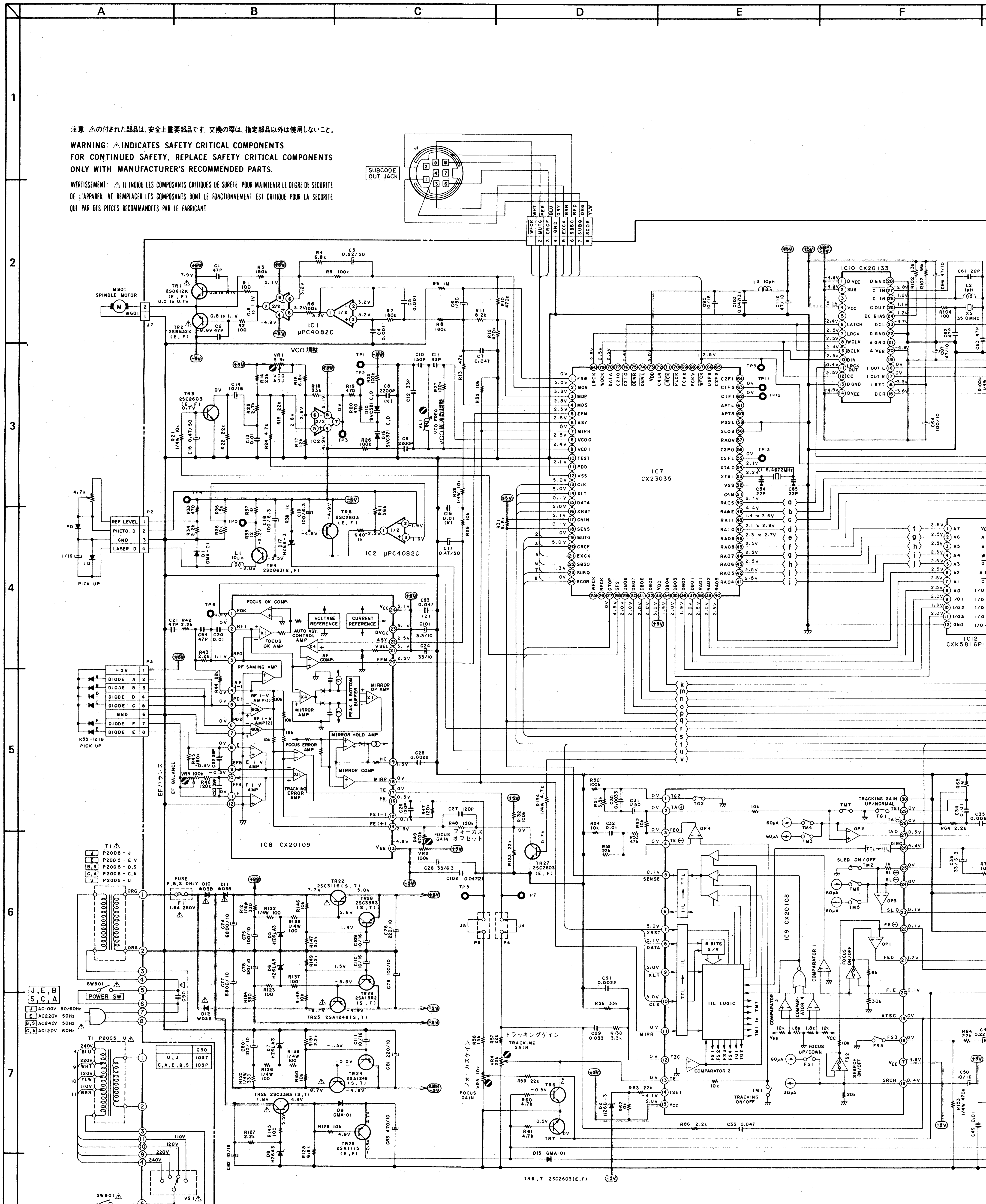
⑤⑥	②⑩	MOTOR DIRECTION
H H	BRAKE	——
L H	L H	LOADING
H L	H L	UNLOADING
L L	OPEN	STOP

CD-A30
BLOCK DIAGRAM
NO. 860113A

注意：⚠の付された部品は、安全上重要部品です。交換の際は、指定部品以外は使用しないこと。

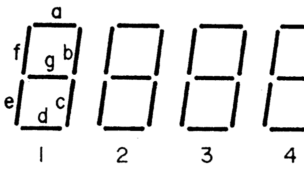
**WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS.
FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.**

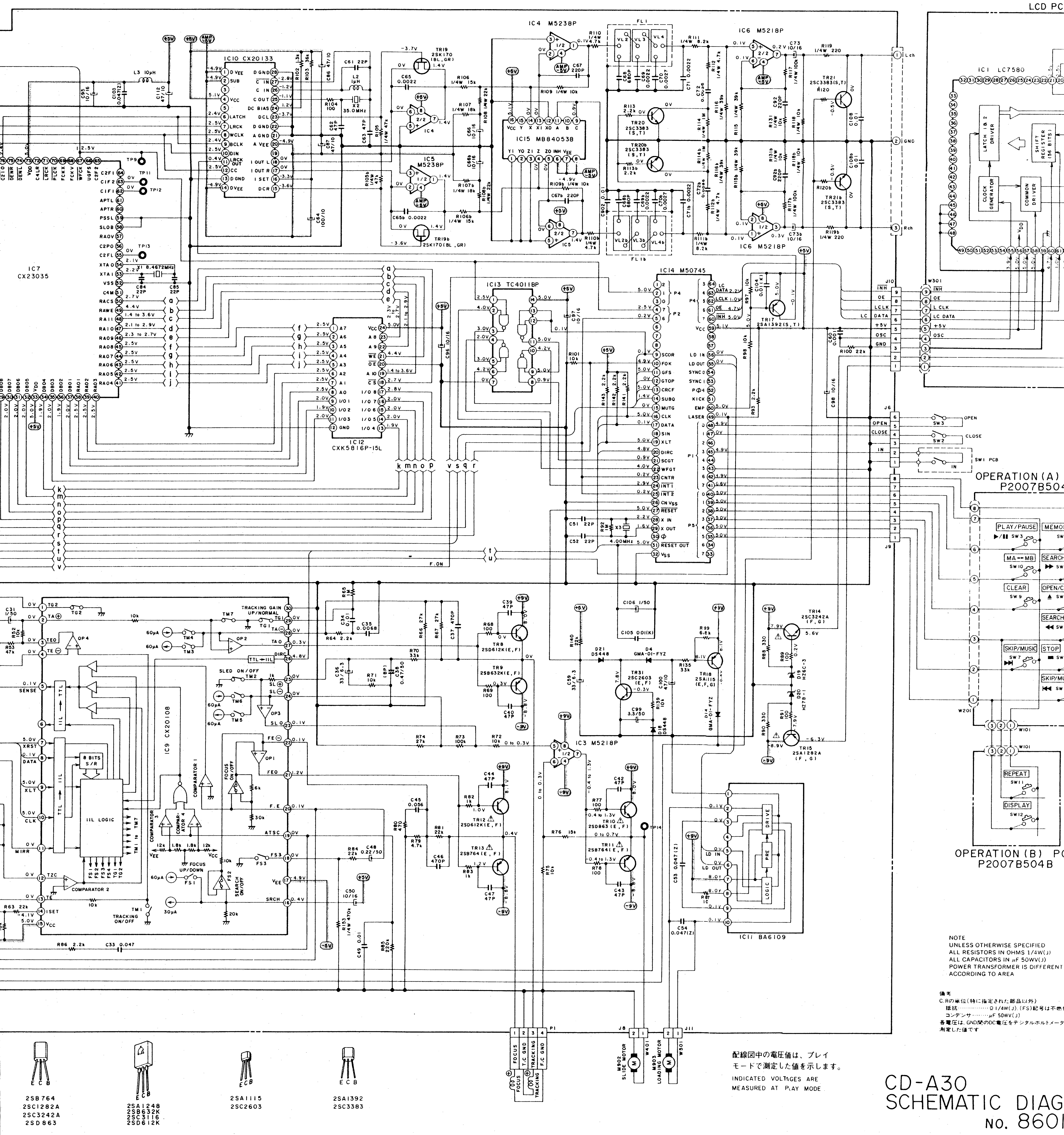
AVERTISSEMENT ⚠ IL INDIQU LES COMPOSANTS CRITIQUES DE SURETE POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT


A
B
C
D
E
F
1
2
3
4
5
6
7
8
SUBCODE OUT JACK
J1
M901 SPINDLE MOTOR
TR1 2SD612K (E, F)
TR2 2SB632K (E, F)
IC1 μPC4082C
VR1 VCO ADJ
VCO 調整
IC2 μPC4082C
TR3 2SC2603 (E, F)
TR4 2SD863(E, F)
TR5 2SC2603 (E, F)
VCO FREQ
VCO周波数調整
REF LEVEL
PHOTO. D
GND
LASER. D
PICK UP
K55-121B PICK UP
+5V
DIODE A
DIODE B
DIODE D
DIODE C
DIODE F
DIODE E
FOCUS OK COMP.
VOLTAGE REFERENCE
CURRENT REFERENCE
AUTO ASY. CONTROL AMP
FOCUS OK AMP
RF COMP.
RF SAMING AMP
RF I-V AMP(1)
RF I-V AMP(2)
MIRROR AMP
PEAK & BOTTOM HOLD
MIRROR OP AMP
MIRROR HOLD AMP
FOCUS ERROR AMP
MIRROR COMP
E I-V AMP
F I-V AMP
TRACKING ERROR AMP
EF BALANCE
EFバランス
IC8 CX20109
フォーカスオフセット
FOCUS GAIN OFFSET
IC7 CX23035
IC10 CX20133
IC12 CXK5816P-
IC9 CX20108
TRACKING GAIN UP/NORMAL
SLED ON/OFF
FOCUS ON/OFF
COMPARATOR 1
COMPARATOR 2
COMPARATOR 3
COMPARATOR 4
8 BITS S/R
IIL LOGIC
FOCUS UP/DOWN
SEARCH ON/OFF
TRACKING ON/OFF
トラッキングゲイン TRACKING GAIN
フォーカスゲイン FOCUS GAIN
TR6, 7 2SC2603(E, F)
TR27 2SC2603 (E, F)
T1 ⚠
J P2005-J
E P2005-EV
B,S P2005-B,S
C,A P2005-CA
U P2005-U
FUSE E,B,S ONLY
F1 1.6A 250V ⚠
SW901 ⚠
POWER SW
J,E,B S,C,A
J AC100V 50/60Hz
E AC220V 50Hz
B,S AC240V 50Hz
C,A AC120V 60Hz
T1 P2005-U ⚠
C90
U, J 103Z
C,A,E,B,S 103P
VS1 ⚠
U AC110 to 240V 50/60Hz ⚠
TR22 2SC3116(S, T)
TR28 2SC3383 (S, T)
TR29 2SA1392 (S, T)
TR23 2SA1248(S, T)
TR24 2SA1248 (S, T)
TR26 2SC3383 (S, T)
TR25 2SA1115 (E, F)
MAIN PCB P2005A501A
B (POWER SUPPLY) LINE
B(電源供給)ライン
S G D
2SK170
E C B
2SB764
2SC1282A
2SC3242A
2SD863
E C B
2SA1248
2SB632K
2SC3116
2SD612K
E C B
2SA1115
2SC2603
E C B
2SA1392
2SC3383

EXPLANATION OF LCD.

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
COM1	COM	—	▶	M-A M-B	INDIVI-DUAL	RE-PEAT	1d	1e	1f	1g	2d	2e	2f	2g	—	3d	3e	3f	3g	4d
COM2	—	COM	❚❚	PRO-GRAM	TOTAL	—	—	1c	1a	1b	—	2c	2a	2b	MUSIC NO.	—	3c	3a	3b	—


a
f
g
b
e
d
c
1
2
3
4


LCD PC
IC1 LC7580
LATCH & 2 DRIVER
SHIFT REGISTER (56 BITS)
CLOCK GENERATOR
COMMON DRIVER
IC4 M5238P
IC6 M5218P
IC5 M5238P
IC10 CX20133
IC15 MB84053B
IC7 CX23035
IC12 CXK5816P-15L
IC13 TC4011BP
IC14 M50745
IC9 CX20108
IC3 M5218P
IC11 BA6109
FL1
FL1b
TR19 2SK170 (BL,GR)
TR19b 2SK170 (BL,GR)
TR20 2SC3383 (S,T)
TR20b 2SC3383 (S,T)
TR21 2SC3383 (S,T)
TR21b 2SC3383 (S,T)
TR17 2SA1392 (S,T)
TR8 2SD612K (E,F)
TR9 2SB632K (E,F)
TR31 2SC2603 (E,F)
TR18 2SA1115 (E,F,G)
TR14 2SC3242A (F,G)
TR15 2SA1282A (F,G)
TR12 2SD612K (E,F)
TR13 2SB764 (E,F)
TR10 2SD863 (E,F)
TR11 2SB764 (E,F)
X1 8.4672MHz
X2 35.0MHz
X3 4.00MHz
Lch
GND
Rch
J10
W301
INH
OE
LCLK
DATA
+5V
OSC
L CLK
LC DATA
J6
OPEN
CLOSE
IN
SW3
SW2
SW1 PCB
OPERATION (A)
P2007B504
J9
PLAY/PAUSE
▶/❚❚ SW3
MEMO
MA↔MB
SW10
SEARCH
▶▶ SW
CLEAR
SW9
OPEN/C
▲ SW
SEARCH
◀◀ SW
SKIP/MUSIC
SW7
▶▶❙
STOP
■ SW
SKIP/MU
❙◀◀ SW
W201
W101
REPEAT
SW11
DISPLAY
SW12
OPERATION (B) PC
P2007B504B
TRACKING GAIN UP/NORMAL
SLED ON/OFF
FOCUS UP/DOWN
SEARCH ON/OFF
TRACKING ON/OFF
IIL LOGIC
8 BITS S/R
COMPARATOR 1
COMPARATOR 2
COMPARATOR 3
COMPARATOR 4
DRIVE
PRE
LOGIC
P1
FOCUS
T.C GND
TRACKING
F.C GND
J8
M802 SLIDING MOTOR
W401
J11
M803 LOADING MOTOR
W501
2SB764
2SC1282A
2SC3242A
2SD863
2SA1248
2SB632K
2SC3116
2SD612K
2SA1115
2SC2603
2SA1392
2SC3383
E C B

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50WV(J)
POWER TRANSFORMER IS DIFFERENT
ACCORDING TO AREA

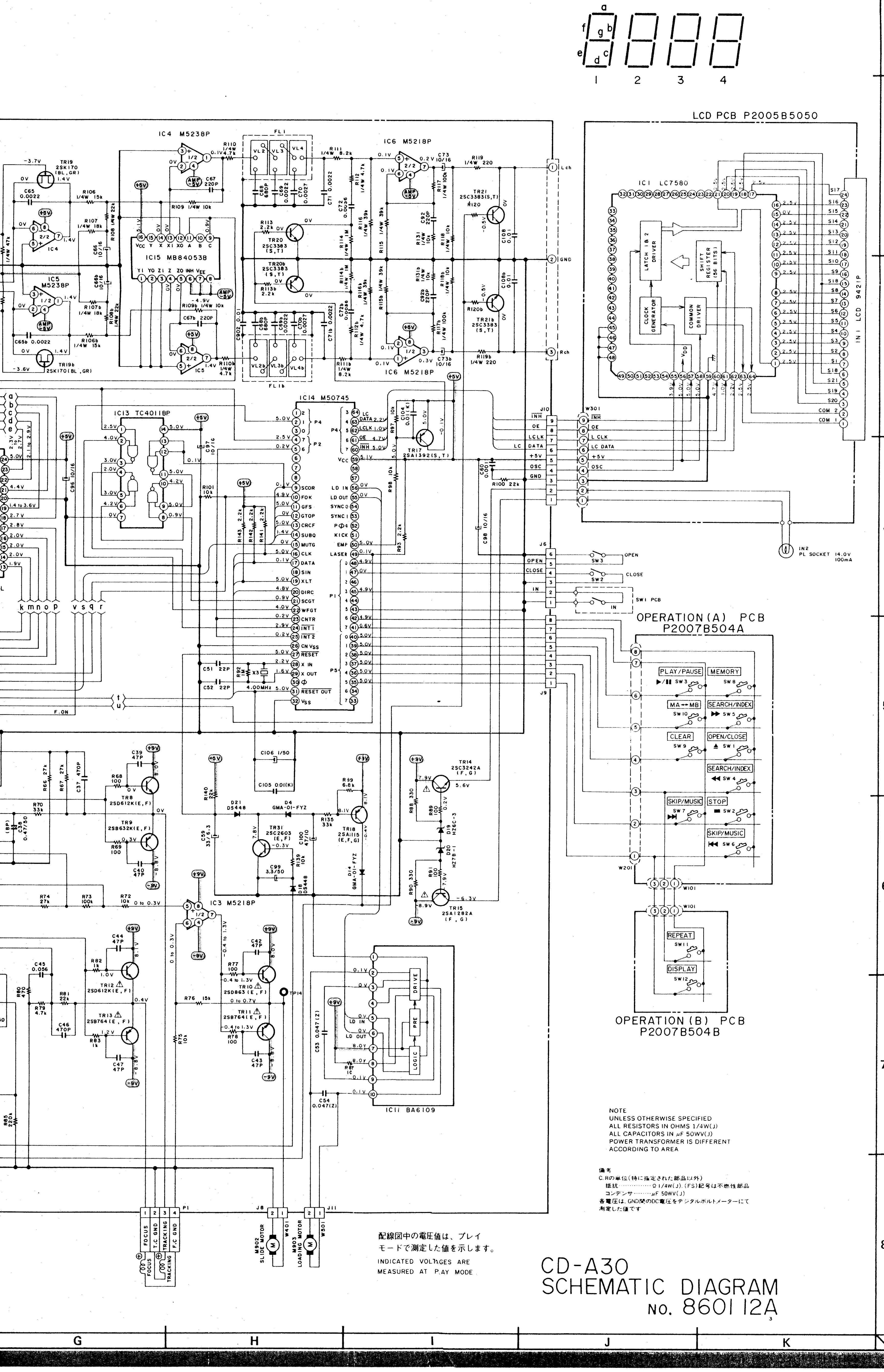
備考
C.Rの単位（特に指定された部品以外）
抵抗……………Ω1/4W(J).(FS)記号は不燃
コンデンサ………μF 50WV(J)
各電圧は、GND間のDC電圧をデジタルボルトメータ
測定した値です

配線図中の電圧値は、プレイモードで測定した値を示します。
INDICATED VOLTAGES ARE MEASURED AT PLAY MODE

CD-A30
SCHEMATIC DIAG
NO. 860

EXPLANATION OF LCD.

PIN NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
COM1	COM	—	▶	M-A M-B	INDIVI-DUAL	RE-PEAT	1d	1e	1f	1g	2d	2e	2f	2g	—	3d	3e	3f	3g	4d	4e	4f	4g	INDEX NO.
COM2	—	COM	❚❚	PRO-GRAM	TOTAL	—	—	1c	1a	1b	—	2c	2a	2b	MUSIC NO.	—	3c	3a	3b	—	4c	4a	4b	MIN SEC



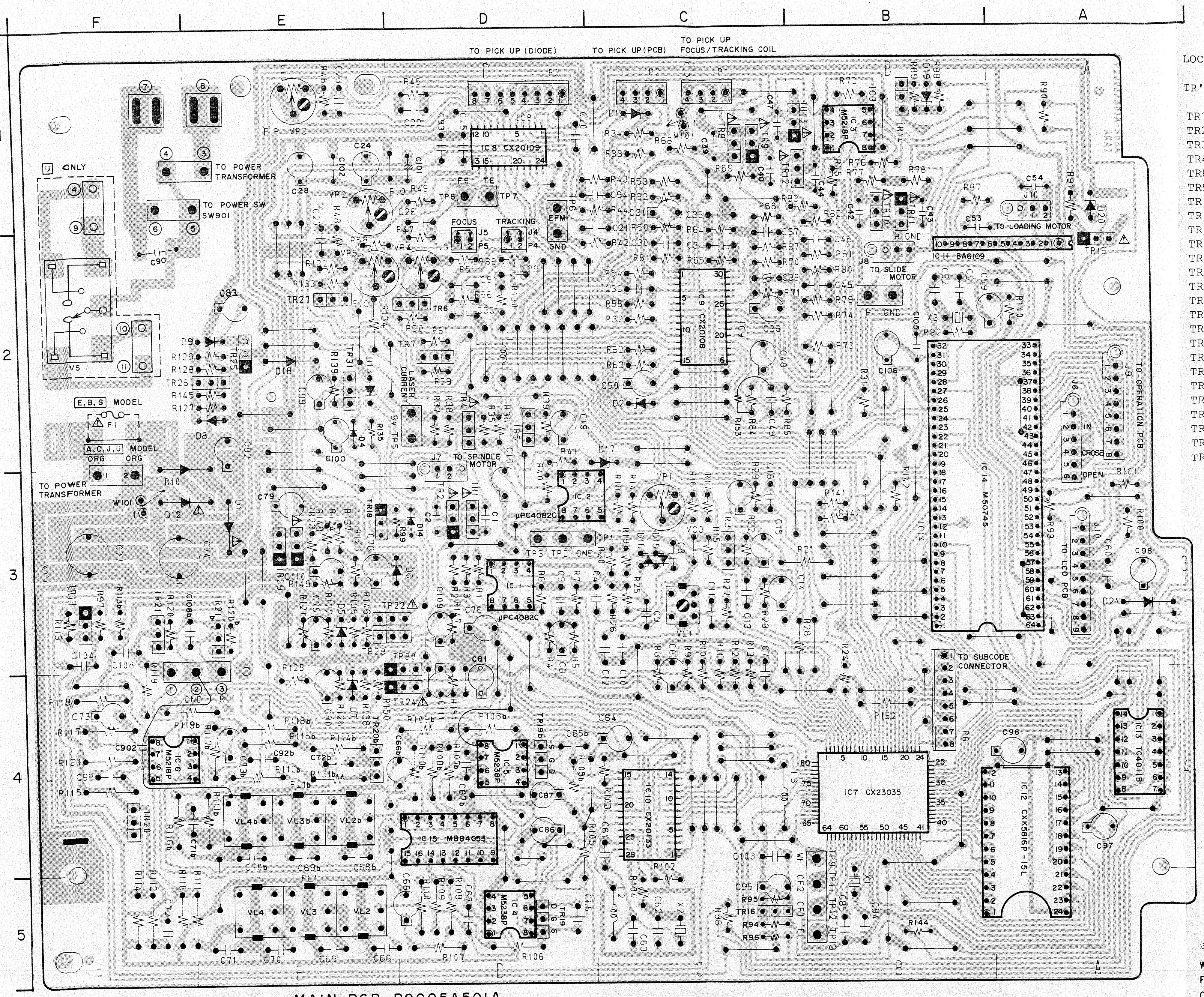
a
b
c
d
e
f
g
1
2
3
4
LCD PCB P2005B5050
IC1 LC7580
LATCH 1 & 2 DRIVER
SHIFT REGISTER (56 BITS)
CLOCK GENERATOR
COMMON DRIVER
VDD
IN1 LCD 9421P
COM 2
COM 1
IN2
PL SOCKET 14.0V 100mA
IC4 M5238P
IC5 M5238P
IC6 M5218P
IC15 MB84053B
IC13 TC4011BP
IC14 M50745
IC3 M5218P
IC11 BA6109
FL1
FL1b
Lch
GND
Rch
J10
W301
INH
OE
LCLK
LC
DATA
+5V
OSC
J6
OPEN
CLOSE
IN
SW3
SW2
SW1 PCB
J9
OPERATION (A) PCB
P2007B504A
PLAY/PAUSE
MEMORY
MA↔MB
SEARCH/INDEX
CLEAR
OPEN/CLOSE
SKIP/MUSIC
STOP
W201
W101
OPERATION (B) PCB
P2007B504B
REPEAT
DISPLAY
SW11
SW12
DRIVE
PRE
LOGIC
LD IN
LD OUT
4.00MHz
TP14
FOCUS
T.C GND
TRACKING
F.C GND
SLIDE MOTOR
LOADING MOTOR
M902
M903
W401
W501
J8
J11
P1

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/4W(J)
ALL CAPACITORS IN μF 50WV(J)
POWER TRANSFORMER IS DIFFERENT
ACCORDING TO AREA

備考
C.Rの単位（特に指定された部品以外）
抵抗……………Ω1/4W(J).(FS)記号は不燃性部品
コンデンサ………μF 50WV(J)
各電圧は、GND間のDC電圧をデジタルボルトメーターにて
測定した値です

配線図中の電圧値は、プレイ
モードで測定した値を示します。
INDICATED VOLTAGES ARE
MEASURED AT PLAY MODE

CD-A30
SCHEMATIC DIAGRAM
NO. 860112A


F
E
D
C
B
A
1
2
3
4
5
TO PICK UP (DIODE)
TO PICK UP (PCB)
TO PICK UP FOCUS/TRACKING COIL
TO POWER TRANSFORMER
TO POWER SW SW901
U ONLY
E,B,S MODEL
A,C,J,U MODEL
ORG
TO POWER TRANSFORMER
FOCUS
TRACKING
LASER CURRENT
TO SPINDLE MOTOR
TO SLIDE MOTOR
TO LOADING MOTOR
TO OPERATION PCB
TO LCD PCB
TO SUBCODE CONNECTOR
IC8 CX20109
IC9 CX20108
IC7 CX23035
IC10 CX20133
IC11 BA6109
IC12 CXK5816P-15L
IC13 TC4011B
IC14 M50745
IC15 M884053
IC3 M5218P
IC4 M5238P
IC5 M5238P
IC6 M5218P
IC1 μPC4082C
IC2 μPC4082C
VL4
VL3
VL2
VL4b
VL3b
VL2b
VL1
VP1
VR1
VR2
VR3
VR4
VR5
TP1
TP2
TP3
TP6
TP7
TP8
GND
EFM
VCO
FE
TE
X1
X2
X3

MAIN PCB P2005A501A

LOCATION OF COMPONENTS

TR'S	
TR1	D3
TR2	D3
TR3	C3
TR4 to 7	D2
TR8	C1
TR9	C1
TR10 to 14	B1
TR15	A1
TR16	C5
TR17	F3
TR18	E3
TR19	D5
TR19b	D4
TR20	F4
TR20b	E4
TR21	F3
TR21b	E3
TR22	D,E3
TR23	E3
TR24	D,E4
TR25 to 27	E2
TR28	D,E3
TR29	E3
TR30	D,E4
TR31	E2

CONNECTOR'S	
P1,2	C1
P3	D1
P6	B4
J6	A2
J7	D3
J8	B1
J9	A2
J10	A3
J11	A1

IC'S	
IC1,2	D3
IC3	B1
IC4	D5
IC5	D4
IC6	F4
IC7	B4
IC8	D1
IC9	C2
IC10	C4
IC11	AB1
IC12,13	A4
IC14	AB3
IC15	D4

TR1,8,12	2SD612K (E,F)
TR2,9	2SB632K (E,F)
TR3,5,6,7,16,27,31	2SC2603 (E,F)
TR4,10	2SD863 (E,F)
TR11,13	2SB764 (E,F)
TR14	2SC3242A (F,G)
TR15	2SA1282A (F,G)
TR17,29,30	2SA1392 (S,T)
TR18,25	2SA1115 (E,F)
TR19,19b	2SK170 (BL,GR)
TR20,20b,21,21b,26,28	2SC3383 (S,T)
TR22	2SC3116 (S,T)
TR23,24	2SA1248 (S,T)

注意：⚠の付された部品は、安全上重要部品です。交換の際は、指定部品以外は使用しないこと。

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS.
FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

AVERTISSEMENT: ⚠ IL INDIQU LES COMPOSANTS CRITIQUES DE SURETE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.

B
○●● = NPN TRANSISTOR

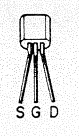
B
●●● = PNP TRANSISTOR

調整ボリューム及びコイル

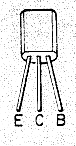
VR1：VCO(電圧制御オシレイター)
VR2：フォーカスオフセット
VR3：EFバランス(トラッキングエラー)
VR4：トラッキングゲイン
VR5：フォーカスゲイン
VL1：VCO周波数

ADJUSTMENT VOLUMES & COIL

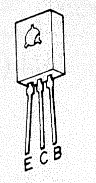
VR 1 : VCO (VOLTAGE CONTROLED OSCILLATOR)
VR 2 : FOCUS OFF-SET
VR 3 : EF BALANCE (TRACKING ERROR)
VR 4 : TRACKING GAIN
VR 5 : FOCUS GAIN
VL 1 : VCO FREQUENCY



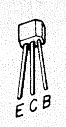
2SK170



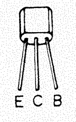
2SD863
2SB764
2SC3242A
2SA1282A



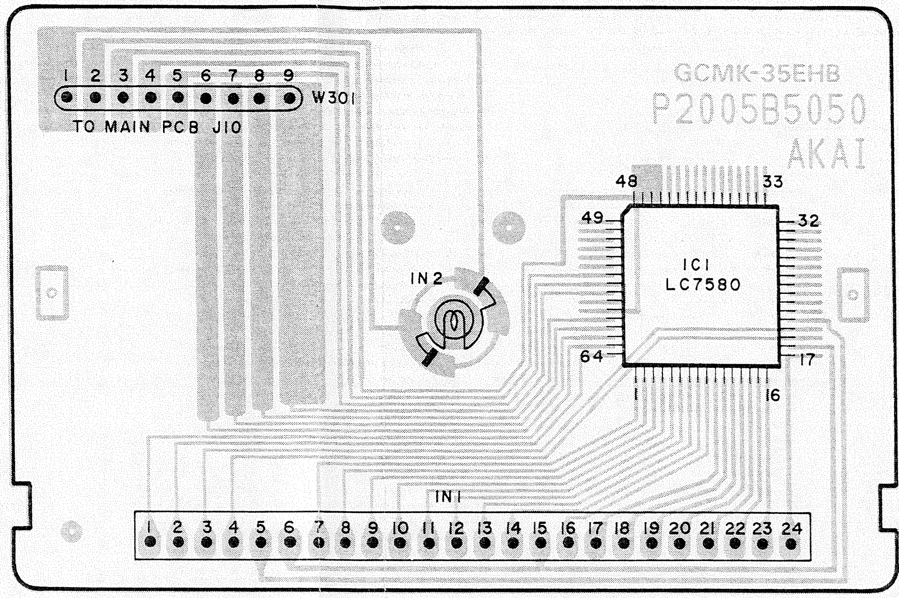
2SD612K
2SB632K
2SC3116
2SA1248



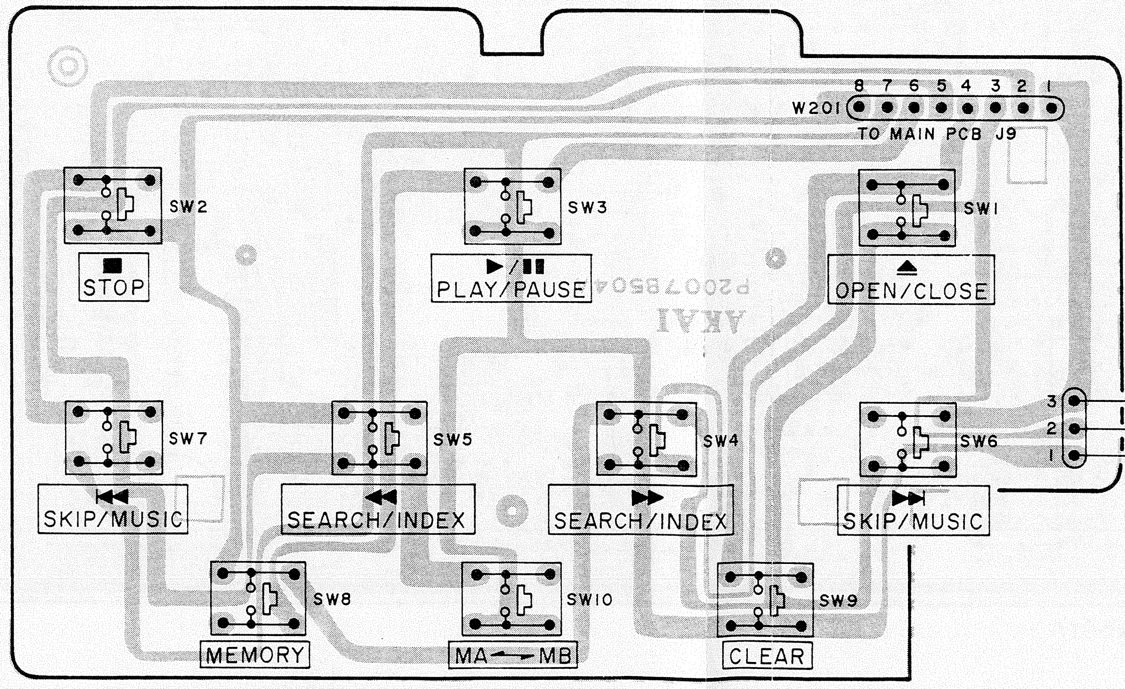
2SC2603
2SA1115



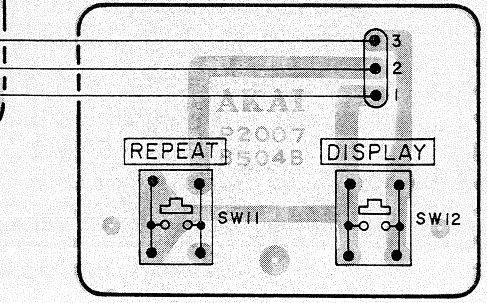
2SA1392
2SC3383


1 2 3 4 5 6 7 8 9
W301
TO MAIN PCB J10
GCMK-35EHB
P2005B5050
AKAI
48
33
49
32
IC1
LC7580
64
17
1
16
IN2
IN1
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

LCD PCB P2005B5050


8 7 6 5 4 3 2 1
W201
TO MAIN PCB J9
SW2
STOP
SW3
PLAY/PAUSE
SW1
OPEN/CLOSE
AKAI
P2007B504
SW7
SKIP/MUSIC
SW5
SEARCH/INDEX
SW4
SEARCH/INDEX
SW6
SKIP/MUSIC
3
2
1
SW8
MEMORY
SW10
MA ⟷ MB
SW9
CLEAR

OPERATION(A) PCB P2007B504A


3
2
1
AKAI
P2007
504B
REPEAT
DISPLAY
SW11
SW12

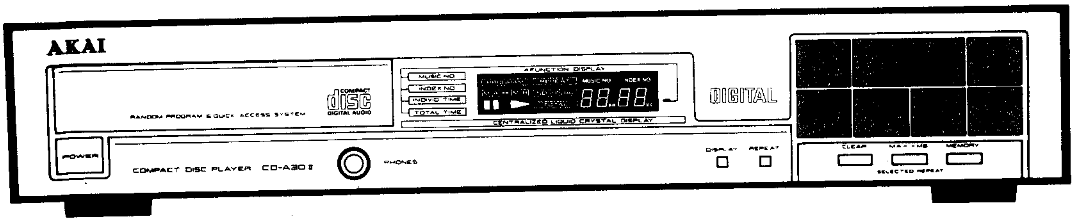
OPERATION(B) PCB
P2007B504B

AKAI SERVICE MANUAL

(ADDITIONAL)

* These models CD-A30II and CD-A3X are equipped with Headphone Jack with Headphone Amplifier and line out terminals for model CD-A30.
Therefore, use this additional manual together with the model CD-A30 SERVICE MANUAL which has been published previously.

* モデル CD−A30 II はモデル CD−A30 にヘッドフォーンアンプ及び端子とライン出力端子機能を追加したものです。
したがってこのサービスマニアルは、すでに発行されているモデル CD−A30 のサービスマニアルと一緒に御使用してください。


AKAI
COMPACT disc DIGITAL AUDIO
RANDOM PROGRAM & QUICK ACCESS SYSTEM
4 FUNCTION DISPLAY
MUSIC NO
INDEX NO
INDIVID TIME
TOTAL TIME
MUSIC NO
INDEX NO
88.88
CENTRALIZED LIQUID CRYSTAL DISPLAY
DIGITAL
POWER
COMPACT DISC PLAYER CD-A30II
PHONES
DISPLAY
REPEAT
CLEAR
MEMORY
SELECTED REPEAT

COMPACT DISC PLAYER

MODEL CD-A3X [USA only]

MODEL CD-A30

MODEL CD-A30II

PARTS LIST

The available service parts for the model CD-A30-II, CD-A3X are identical to those of the model CD-A30 except for the parts listed hereunder.
Refer to the Parts List in the CD-A30 Service Manual for the parts not listed in this Parts List.

1. MECHA BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
1-15	BO-359294	⚠ PICK UP KSS-121B
1-15	BO-367214	⚠ PICK UP KSS-123A

2. PC BOARD BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
2-1	BA-P2011A020B	PC MAIN BLK CD-A30-2 [J]
2-1A	BA-P2011A020A	PC MAIN BLK CD-A30-2 [U]
2-1B	BA-P2011A020C	PC MAIN BLK CD-A30-2 [C], CD-A3X [A]
2-1C	BA-P2011A020D	PC MAIN BLK CD-A30-2 [E, B, S]
2-1D	BA-P2011A020E	PC MAIN BLK CD-A30-2 [V]

3. MAIN PC BOARD

REF. NO.	PARTS NO.	DESCRIPTION
3-IC1, 2	EI-362444	IC μPC4072C
3-IC14	EI-366362	IC M50745-416SP
3-D10 to 12	ED-367295	D SILICON DSM1A4 F10 100/1.0A
3-L2	EO-365304	COIL FIX 1 EL0606SKI 1R0J

4A. HEAD PHONE AMP PC BOARD

REF. NO.	PARTS NO.	DESCRIPTION
4A-IC201	EI-349719	IC M5218P
4A-IC202	EI-367185	IC TA78L006AP
4A-IC203	EI-367186	IC TA79L006P
4A-TR201	ET-349081	TR 2SC3383 S, T
4A-D201	ED-301911	D SILICON H DS448
4A-D202	ED-301911	D SILICON H DS448
4A-P201	EJ-362983	PIN J P2006 2P [CD-A3X]
4A-P201	EJ-337424	PIN J AJC-034-ABB P 2P [CD-A30-2]

4B. HEAD PHONE PC BOARD

REF. NO.	PARTS NO.	DESCRIPTION
4B-J202	EJ-355012	PHONE J 3P HLJ0541-010 6.3

4C. SUB CODE PC BOARD (CD-A30-2 [V] ONLY)

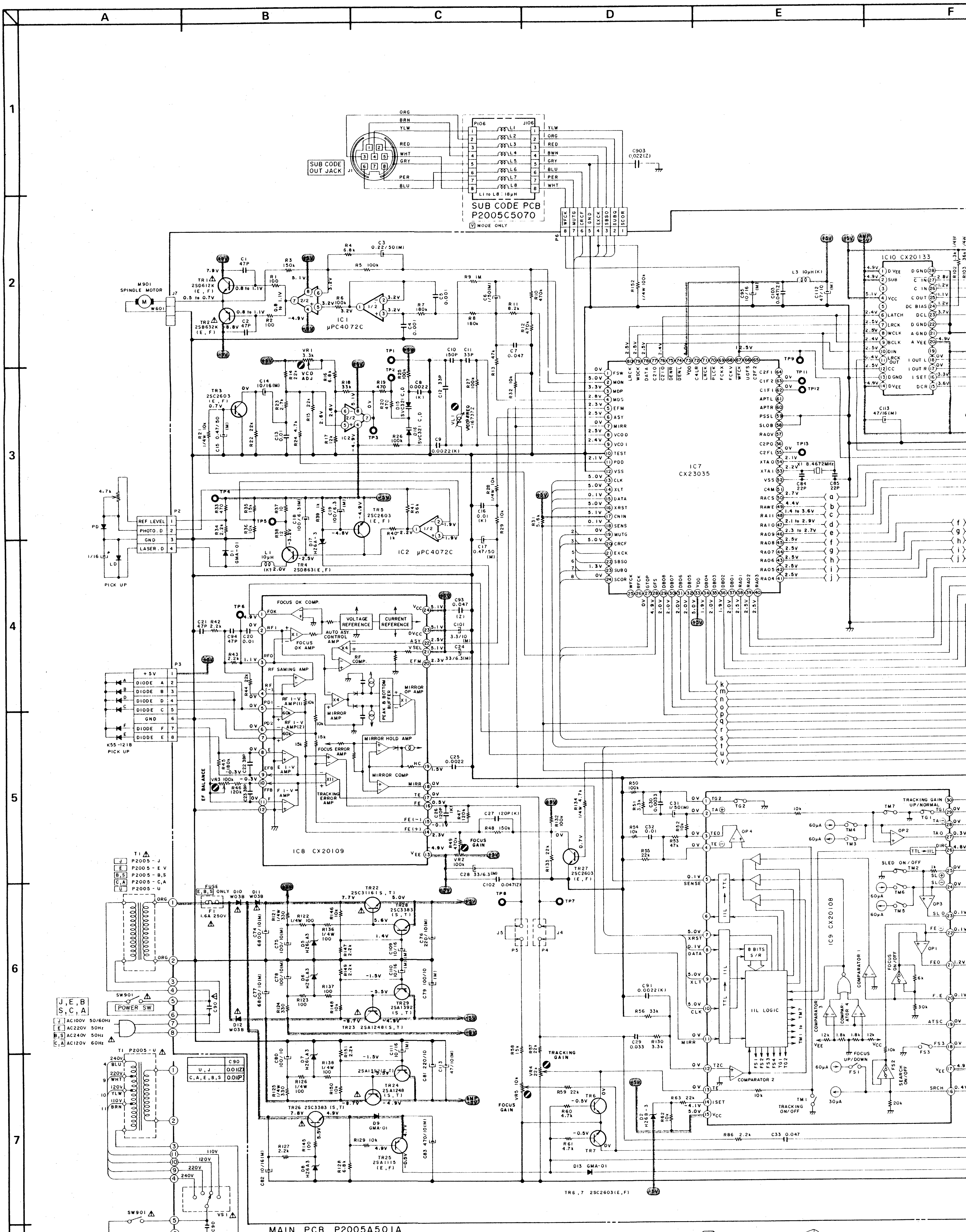
REF. NO.	PARTS NO.	DESCRIPTION
4C-L1 to L8	EO-669273	COIL FIX 2 FL5R200 180

7. ASSEMBLY BLOCK

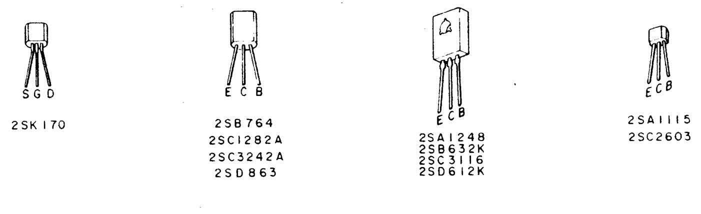
REF. NO.	PARTS NO.	DESCRIPTION
7-1A	SA-367189	FOOT RUBBER
7-3	SP-362614T	PANEL REAR CD-A3X [A]
7-3	SP-362614N	PANEL REAR CD-A30-2 [J]
7-3A	SP-362614M	PANEL REAR CD-A30-2 [U]
7-3B	SP-362614Q	PANEL REAR CD-A30-2 [C]
7-3C	SP-362614R	PANEL REAR CD-A30-2 [E]
7-3D	SP-362614S	PANEL REAR CD-A30-2 [B, S]
7-3E	SP-362614V	PANEL REAR CD-A30-2 [V]
7-5	ZW-367190	SPACER 3 × 1.6 (FOR FOOT) [EXCEPT J]
7-7	AV-315170	CORD RR-165 PIN-PIN/2P

8. FINAL ASSEMBLY BLOCK

REF. NO.	PARTS NO.	DESCRIPTION
8-1	BD-B362603E1	PANEL FRONT (3) PART [CD-A3X]
8-1	BD-B362603C2	PANEL FRONT (2) PART [CD-A30-2]
8-1B	BD-B362603F2	PANEL FRONT (3)-B PART [CD-A3X]
8-1B	BD-B362603D2	PANEL FRONT (2)-B PART [CD-A30-2]


A
B
C
D
E
F
1
2
3
4
5
6
7
8
SUB CODE OUT JACK
SUB CODE PCB P2005C5070
V MODE ONLY
L1 to L8 : 18μH
M901 SPINDLE MOTOR
IC1 μPC4072C
IC2 μPC4072C
IC7 CX23035
IC8 CX20109
IC9 CX20108
IC10 CX20133
VCO ADJ
FOCUS OK COMP.
VOLTAGE REFERENCE
CURRENT REFERENCE
AUTO ASY CONTROL AMP
FOCUS OK AMP
RF COMP.
RF SAMING AMP
RF I-V AMP(1)
RF I-V AMP(2)
MIRROR AMP
PEAK & BOTTOM BUFFER
MIRROR OP AMP
MIRROR HOLD AMP
FOCUS ERROR AMP
MIRROR COMP
E I-V AMP
F I-V AMP
TRACKING ERROR AMP
EF BALANCE
FOCUS GAIN
TRACKING GAIN
PICK UP
K55-1218 PICK UP
REF LEVEL
PHOTO. D
GND
LASER. D
DIODE A
DIODE B
DIODE C
DIODE D
DIODE E
DIODE F
POWER SW
FUSE
COMPARATOR 1
COMPARATOR 2
COMPARATOR 3
COMPARATOR 4
IIL LOGIC
8 BITS S/R
TRACKING GAIN UP/NORMAL
SLED ON/OFF
FOCUS ON/OFF
FOCUS UP/DOWN
SEARCH ON/OFF
TRACKING ON/OFF
TR6,7 2SC2603(E,F)

MAIN PCB P2005A501A

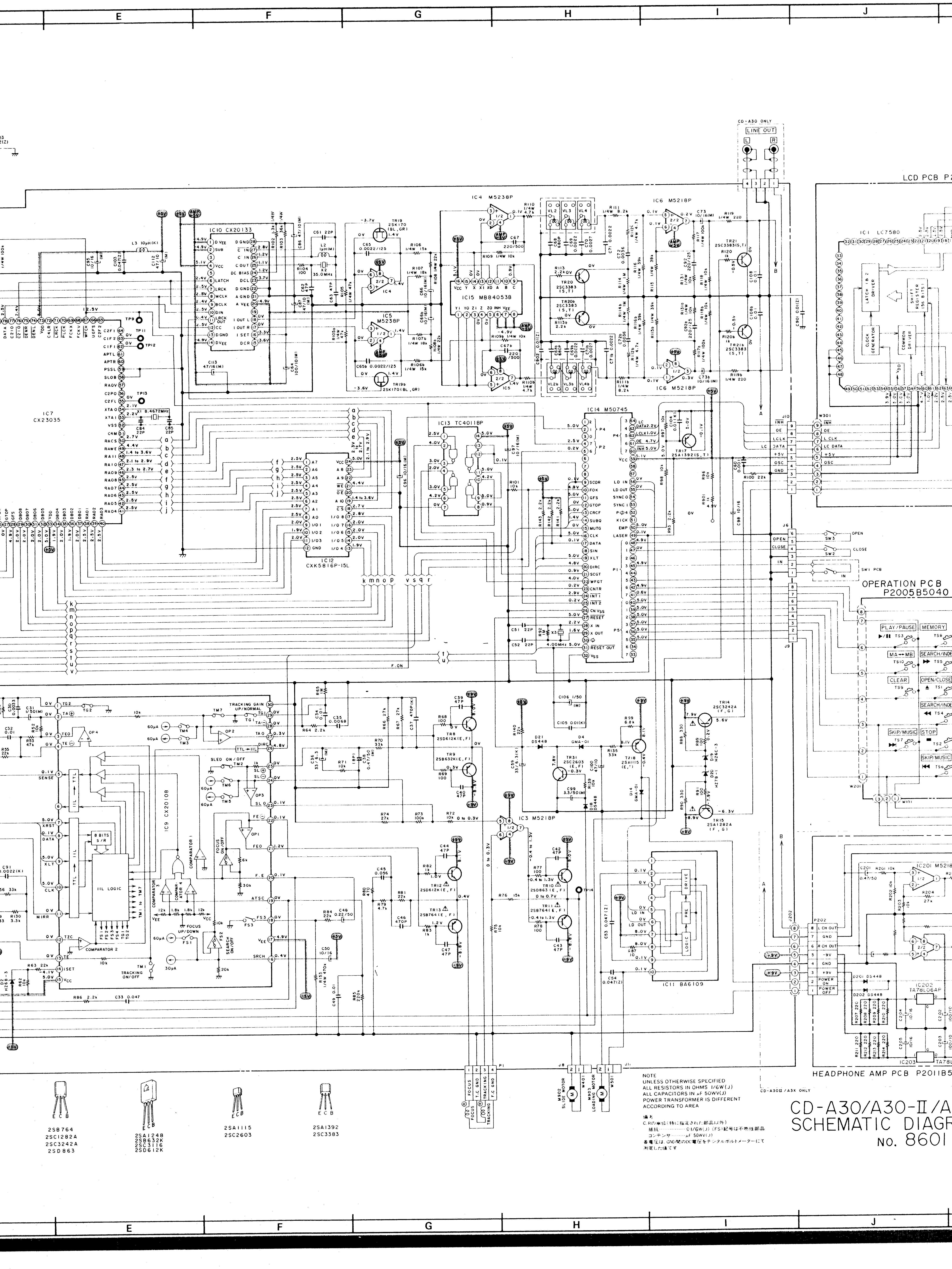

S G D
2SK170
E C B
2SB764
2SC1282A
2SC3242A
2SD863
E C B
2SA1248
2SB632K
2SC3116
2SD612K
E C B
2SA1115
2SC2603

B (POWER SUPPLY) LINE

注意 ⚠の付された部品は、安全上重要部品てす 交換の際は、指定部品以外は使用しないこと。

**WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS.
FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS
ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.**

AVERTISSEMENT ⚠ IL INDIQU LES COMPOSANTS CRITIQUES DE SURETE POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

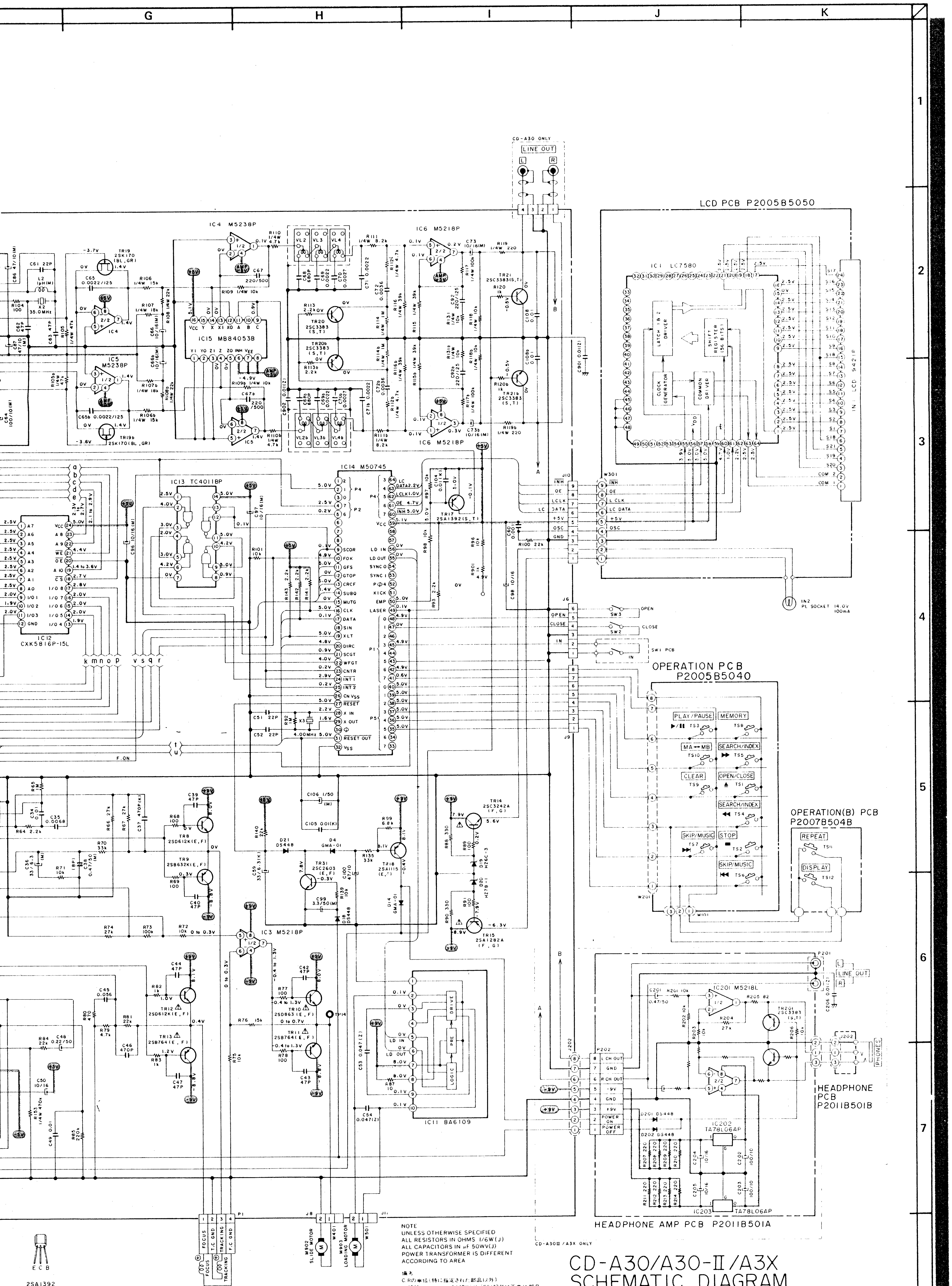

E
F
G
H
I
J
CD-A30 ONLY
LINE OUT
L
R
LCD PCB
IC1 LC7580
LATCH & 2 DRIVER
SHIFT REGISTER (56 BITS)
CLOCK GENERATOR
COMMON DRIVER
IC10 CX20133
IC4 M5238P
IC5 M5238P
IC6 M5218P
IC15 MB84053B
IC7 CX23035
IC13 TC4011BP
IC14 M50745
IC12 CXK5816P-15L
IC9 CX20108
IC3 M5218P
IC11 BA6109
TR19 2SK170 (BL, GR)
TR19b 2SK170 (BL, GR)
TR20 2SC3383 (S, T)
TR20b 2SC3383 (S, T)
TR21 2SC3383 (S, T)
TR21b 2SC3383 (S, T)
TR17 2SA1392 (S, T)
TR8 2SD612K (E, F)
TR9 2SB632K (E, F)
TR12 2SD612K (E, F)
TR13 2SB764 (E, F)
TR10 2SD863 (E, F)
TR11 2SB764 (E, F)
TR31 2SC2603 (E, F)
TR18 2SA1115 (E, F)
TR14 2SC3242A (F, G)
TR15 2SA1282A (F, G)
X1 8.4672MHz
X2 35.0MHz
X3 4.00MHz
TRACKING GAIN UP/NORMAL
SLED ON/OFF
FOCUS ON/OFF
FOCUS UP/DOWN
SEARCH ON/OFF
TRACKING ON/OFF
COMPARATOR 1
COMPARATOR 2
COMPARATOR 3
8 BITS S/R
IIL LOGIC
TTL
IIL
SENSE
XRST
DATA
XLT
CLK
MIRR
OPEN
CLOSE
IN
SW1 PCB
OPERATION PCB P2005B5040
PLAY/PAUSE
MEMORY
SEARCH/INDEX
MA ↔ MB
CLEAR
OPEN/CLOSE
SKIP/MUSIC
STOP
IC201 M5218
IC202 TA78L06AP
IC203 TA78L
HEADPHONE AMP PCB P2011B5
L CH OUT
R CH OUT
GND
-9V
+9V
POWER ON
POWER OFF
CD-A30Ⅱ/A3X ONLY
FOCUS
T.C GND
TRACKING
M602 SLIDE MOTOR
M603 LOADING MOTOR
2SB764
2SC1282A
2SC3242A
2SD863
2SA1248
2SB632K
2SC3116
2SD612K
2SA1115
2SC2603
2SA1392
2SC3383
E C B

NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W(J)
ALL CAPACITORS IN μF 50WV(J)
POWER TRANSFORMER IS DIFFERENT
ACCORDING TO AREA

備考
C.Rの単位(特に指定された部品以外)
抵抗……………Ω1/6W(J) (FS)記号は不燃性部品
コンデンサ………μF 50WV(J)
各電圧は、GND間のDC電圧をデジタルボルトメーターにて
測定した値です

CD-A30/A30-Ⅱ/A
SCHEMATIC DIAGR
NO. 8601

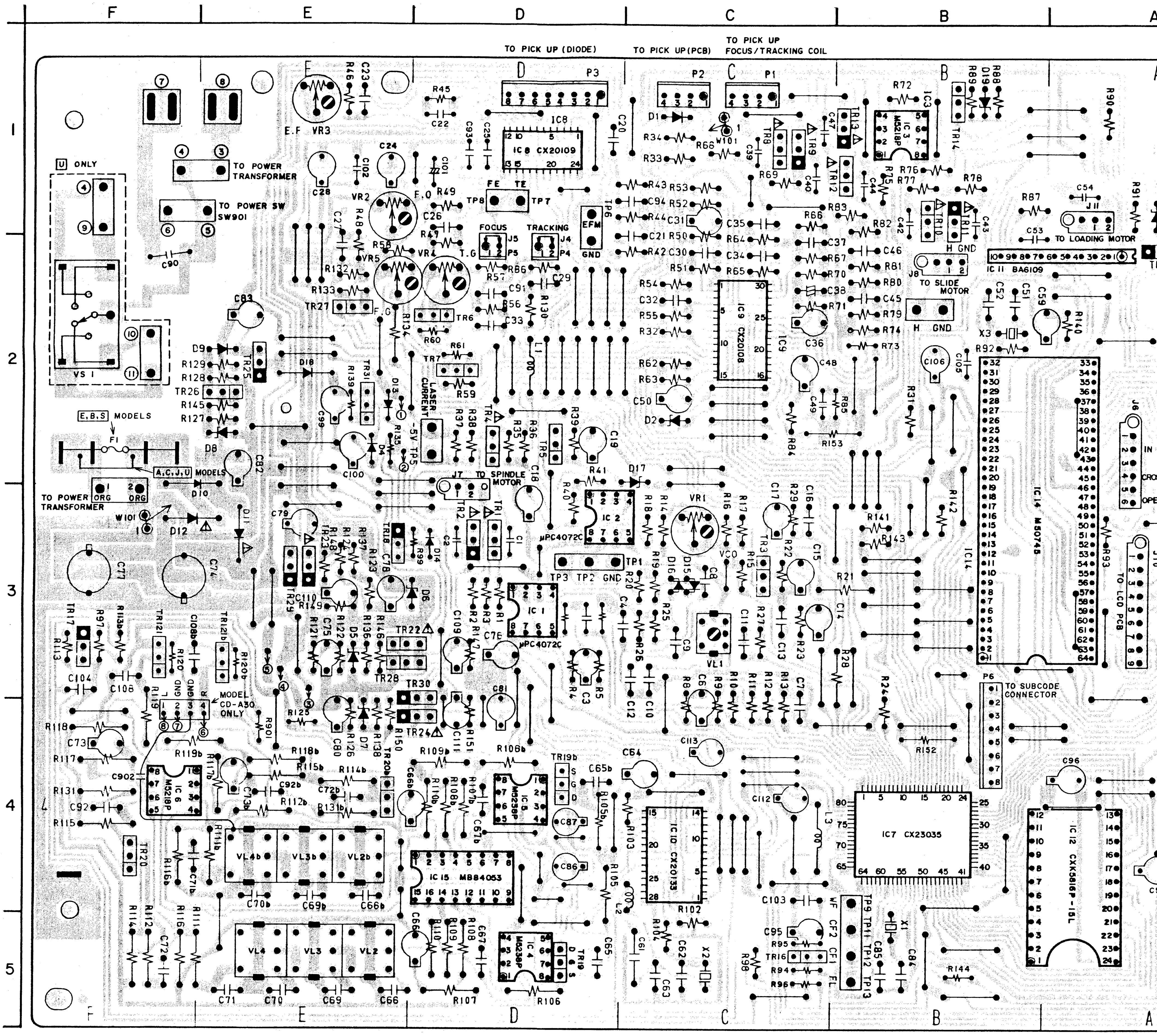
Suppl.


G
H
I
J
K
1
2
3
4
5
6
7
8
CD-A30 ONLY
LINE OUT
L
R
LCD PCB P2005B5050
IC1 LC7580
LATCH 1&2 DRIVER
SHIFT REGISTER (36 BITS)
CLOCK GENERATOR
COMMON DRIVER
LCD 942IF
IC4 M5238P
IC5 M5238P
IC6 M5218P
IC15 MB84053B
IC13 TC4011BP
IC14 M50745
IC12 CXK5816P-15L
TR19 2SK170 (BL, GR)
TR19b 2SK170 (BL, GR)
TR20 2SC3383 (S, T)
TR20b 2SC3383 (S, T)
TR21 2SC3383 (S, T)
TR21b 2SC3383 (S, T)
TR17 2SA1392 (S, T)
VL2
VL3
VL4
VL2b
VL3b
VL4b
IN2 PL SOCKET 14.0V 100mA
SW3 OPEN
SW2 CLOSE
SW1 PCB
IN
J6
J9
J10
W301
INH
OE
LCLK
DATA
+5V
OSC
GND
OPERATION PCB P2005B5040
PLAY/PAUSE
MEMORY
MA ↔ MB
SEARCH/INDEX
CLEAR
OPEN/CLOSE
SKIP/MUSIC
STOP
OPERATION(B) PCB P2007B504B
REPEAT
DISPLAY
W201
W101
TR8 2SD612K (E, F)
TR9 2SB632K (E, F)
TR12 2SD612K (E, F)
TR13 2SB764 (E, F)
TR10 2SD863 (E, F)
TR11 2SB764 (E, F)
TR31 2SC2603 (E, F)
TR18 2SA1115 (E, F)
TR14 2SC3242A (F, G)
TR15 2SA1282A (F, G)
D21 DS448
D4 GMA-01
D14 GMA-01
D18 DS448
D19 HZ6C-3
D20 HZ7B-1
IC3 M5218P
IC11 BA6109
DRIVE
PRE
LOGIC
LD IN
LD OUT
TP14
P201
LINE OUT
IC201 M5218L
TR201 2SC3383 (S, T)
J202
PHONES
HEADPHONE PCB P2011B501B
P202
L CH OUT
GND
R CH OUT
-9V
+9V
POWER ON
POWER OFF
D201 DS448
D202 DS448
IC202 TA78L06AP
IC203 TA78L06AP
HEADPHONE AMP PCB P2011B501A
CD-A30II / A3X ONLY
P1
FOCUS
T.C GND
TRACKING
F.C GND
J8
J11
M902 SLIDE MOTOR
M903 LOADING MOTOR
W401
W501
E C B
2SA1392
2SC3383

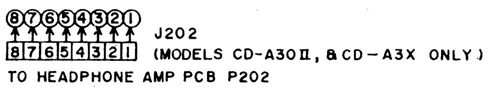
NOTE
UNLESS OTHERWISE SPECIFIED
ALL RESISTORS IN OHMS 1/6W(J)
ALL CAPACITORS IN μF 50WV(J)
POWER TRANSFORMER IS DIFFERENT
ACCORDING TO AREA

備考
C. Rの単位（特に指定された部品以外）
抵抗…………Ω1/6W(J)（FS）記号は不燃性部品
コンデンサ……μF 50WV(J)
各電圧は、GND間のDC電圧をデジタルボルトメーターにて
測定した値です

CD-A30/A30-II/A3X
SCHEMATIC DIAGRAM
NO. 860112C


F
E
D
C
B
TO PICK UP (DIODE)
TO PICK UP(PCB)
TO PICK UP FOCUS/TRACKING COIL
P3
P2
P1
IC8 CX20109
IC3 M5218P
IC9 CX20108
IC11 BA6109
IC14 M50745
IC2 μPC4072C
IC1 μPC4072C
IC6 M5218P
IC5 M5238P
IC15 MB84053
IC10 CX20133
IC7 CX23035
IC12 CXK5816P-15L
IC4 M5238P
U ONLY
TO POWER TRANSFORMER
TO POWER SW SW901
VS1
E,B,S MODELS
A,C,J,U MODELS
TO POWER TRANSFORMER
W101
E.F VR3
VR2
F.O
VR5
VR4
T.G
FOCUS
TRACKING
FE
TE
TP8
TP7
TP6
EFM
GND
LASER CURRENT
-5V TP5
TO SPINDLE MOTOR
TP3 TP2 GND
TP1
VR1
VCO
VL1
TO LOADING MOTOR
TO SLIDE MOTOR
H GND
TO LCD PCB
TO SUBCODE CONNECTOR
P6
MODEL CD-A30 ONLY
VL4b VL3b VL2b
VL4 VL3 VL2
X1
X2
X3
TP9 TP11 TP12 TP13
WF CF2 CF1 FL

MAIN PCB P2005A501A

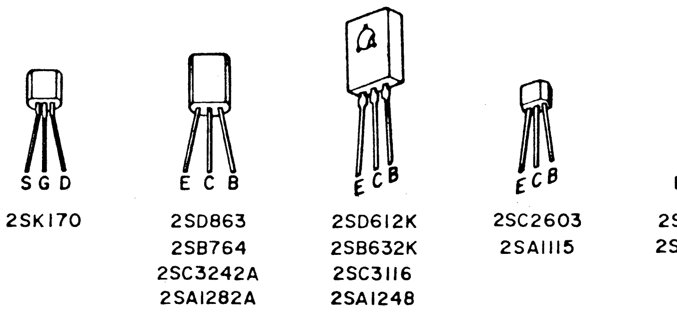

⑧⑦⑥⑤④③②①
8 7 6 5 4 3 2 1

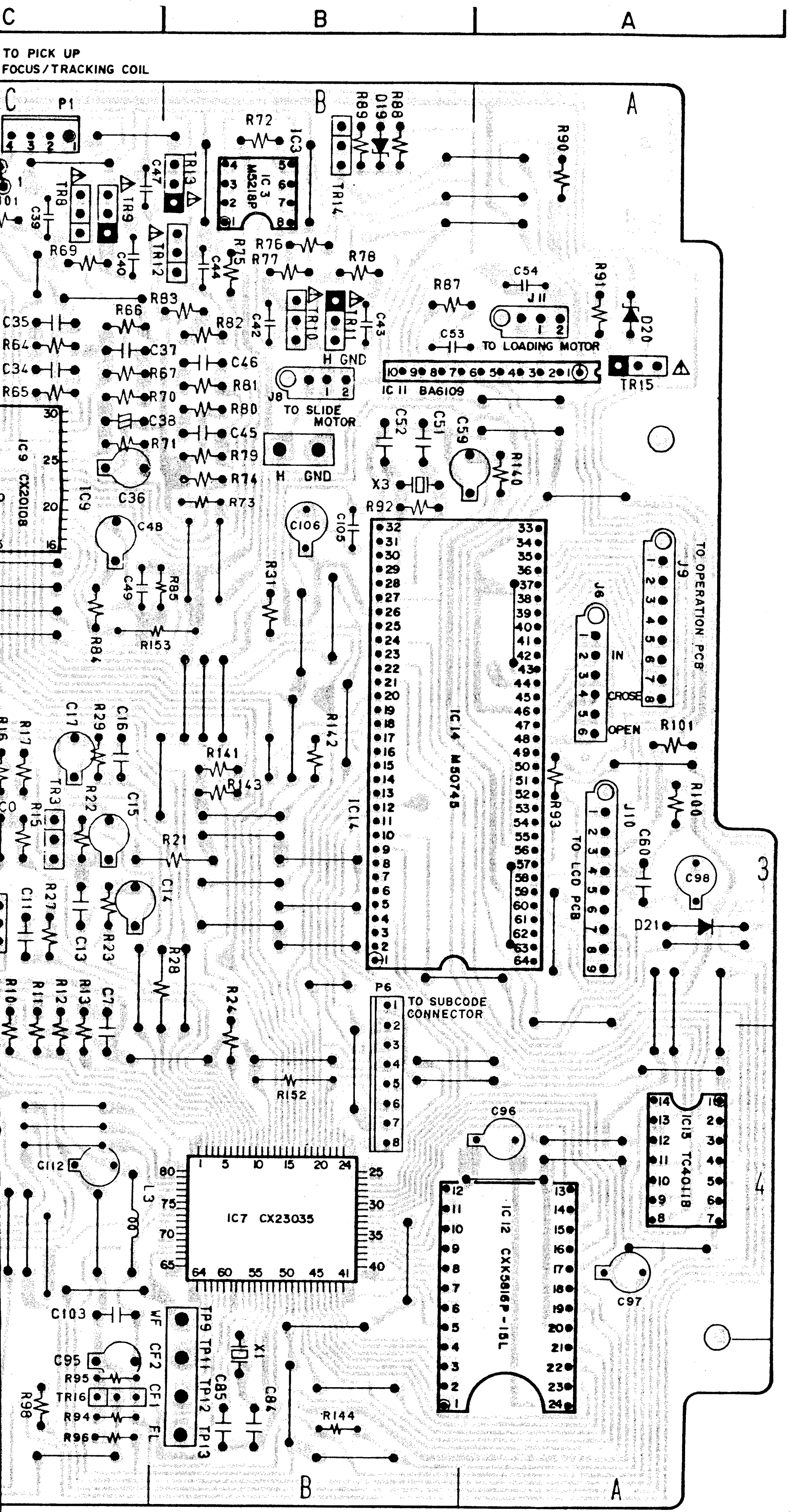
J202
(MODELS CD-A30Ⅱ, & CD-A3X ONLY)
TO HEADPHONE AMP PCB P202

TR1,8,12	2SD612K (E,F)
TR2,9	2SB632K (E,F)
TR3,5,6,7,16,27,31	2SC2603 (E,F)
TR4,10	2SD863 (E,F)
TR11,13	2SB764 (E,F)
TR14	2SC3242A (F,G)
TR15	2SA1282A (F,G)
TR17,29,30	2SA1392 (S,T)
TR18,25	2SA1115 (E,F)
TR19,19b	2SK170 (BL,GR)
TR20,20b,21,21b,26,28	2SC3383 (S,T)
TR22	2SC3116 (S,T)
TR23,24	2SA1248 (S,T)

● ADJUSTMENT VOLUMES & COIL

VR 1 : VCO (VOLTAGE CONTROLED OSCILLATOR)
VR 2 : FOCUS OFF-SET
VR 3 : EF BALANCE (TRACKING ERROR)
VR 4 : TRACKING GAIN
VR 5 : FOCUS GAIN
VL 1 : VCO FREQUENCY


S G D
2SK170
E C B
2SD863
2SB764
2SC3242A
2SA1282A
E C B
2SD612K
2SB632K
2SC3116
2SA1248
E C B
2SC2603
2SA1115


C
B
A
TO PICK UP
FOCUS/TRACKING COIL
P1
IC3 M5218P
TO LOADING MOTOR
J11
IC11 BA6109
TR15
J8
TO SLIDE MOTOR
H GND
IC9 CX20108
IC14 M50745
J9
TO OPERATION PCB
J6
IN
CROSE
OPEN
J10
TO LCD PCB
P6
TO SUBCODE CONNECTOR
IC7 CX23035
IC12 CXK5816P-15L
IC15 TC4011B
3
4

LOCATION OF COMPONENTS

TR'S

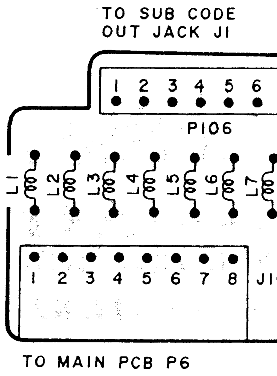
TR1	D3
TR2	D3
TR3	C3
TR4 to 7	D2
TR8	C1
TR9	C1
TR10 to 14	B1
TR15	A1
TR16	C5
TR17	F3
TR18	E3
TR19	D5
TR19b	D4
TR20	F4
TR20b	E4
TR21	F3
TR21b	E3
TR22	D,E3
TR23	E3
TR24	D,E4
TR25 to 27	E2
TR28	D,E3
TR29	E3
TR30	D,E4
TR31	E2

CONNECTOR'S

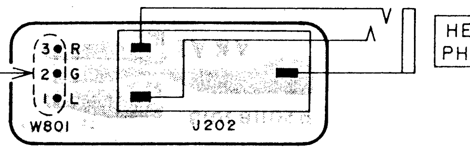
P1,2	C1
P3	D1
P6	B4
J6	A2
J7	D3
J8	B1
J9	A2
J10	A3
J11	A1

IC'S

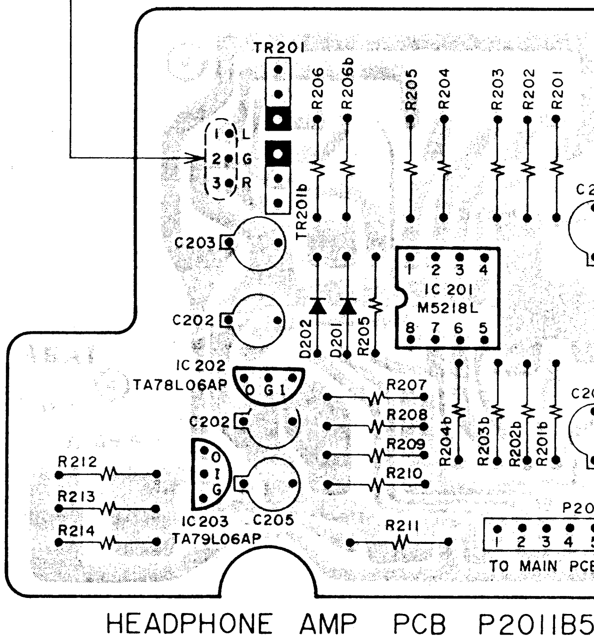
IC1,2	D3
IC3	B1
IC4	D5
IC5	D4
IC6	F4
IC7	B4
IC8	D1
IC9	C2
IC10	C4
IC11	AB1
IC12,13	A4
IC14	AB3
IC15	D4


TO SUB CODE OUT JACK J1
1 2 3 4 5 6
P106
L1 L2 L3 L4 L5 L6 L7
1 2 3 4 5 6 7 8 J1
TO MAIN PCB P6

SUB CODE PCB
P2005C5070
(V MODEL ONL


3 R
2 G
1 L
W801
J202
HE
PH

HEADPHONE PCB
P2011B501B

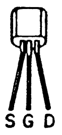

TR201
R206
R206b
R205
R204
R203
R202
R201
1 L
2 G
3 R
TR201b
C203
IC 201 M5218L
C202
D202
D201
R205
IC 202 TA78L06AP
O G I
C202
R207
R208
R209
R210
R204b
R203b
R202b
R201b
R212
R213
R214
IC203 TA79L06AP
C205
R211
TO MAIN PCB
P20

HEADPHONE AMP PCB P2011B5
(Models CD-A30Ⅱ,CD-A3X ONL

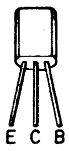
注意：⚠の付された部品は、安全上重要部品です．交換の際は、指定部品以外は使用しないこと。

WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS.
FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS.

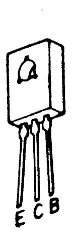
AVERTISSEMENT: ⚠ IL INDIQU LES COMPOSANTS CRITIQUES DE SURETE POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.



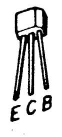
2SK170



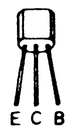
2SD863
2SB764
2SC3242A
2SA1282A



2SD612K
2SB632K
2SC3116
2SA1248



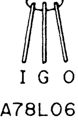
2SC2603
2SA1115



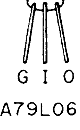
2SA1392
2SC3383

B
●|● ● = NPN TRANSISTOR

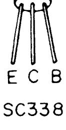
B
■|● ● = PNP TRANSISTOR



TA78L06AP



TA79L06AP



2SC3383

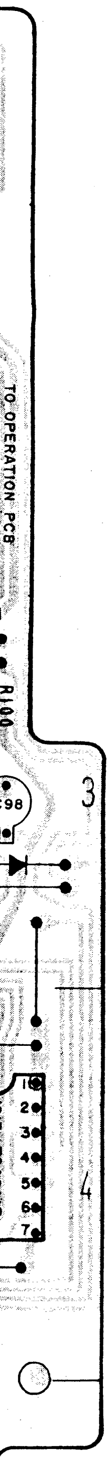
B
■

TR2

I:IN
O:OUT
G:GND

AKAI ELECTRIC CO.,
12-14, 2-Chome, Higashi-Kojiya, Ohta-Ku, Tok
TEL: Tokyo (742) 5111 CABLE: HIFIAKAI TOKYO TEL

Printed No. 860512-G1-4000
Printed Date: J
P


TO OPERATION PCB
R100
3
4

LOCATION OF COMPONENTS

TR'S

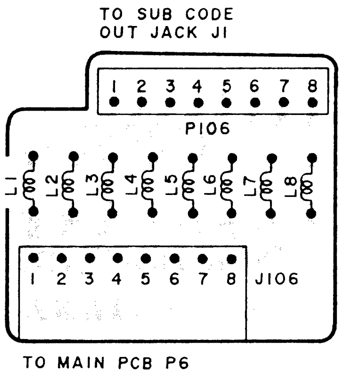
TR1...........D3
TR2...........D3
TR3...........C3
TR4 to 7......D2
TR8...........C1
TR9...........C1
TR10 to 14....B1
TR15..........A1
TR16..........C5
TR17..........F3
TR18..........E3
TR19..........D5
TR19b.........D4
TR20..........F4
TR20b.........E4
TR21..........F3
TR21b.........E3
TR22..........D,E3
TR23..........E3
TR24..........D,E4
TR25 to 27....E2
TR28..........D,E3
TR29..........E3
TR30..........D,E4
TR31..........E2

CONNECTOR'S

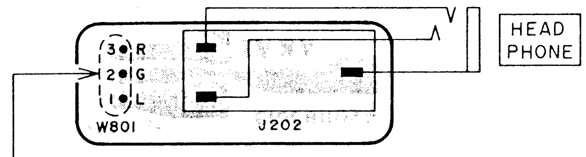
P1,2.......C1
P3.........D1
P6.........B4
J6.........A2
J7.........D3
J8.........B1
J9.........A2
J10........A3
J11........A1

IC'S

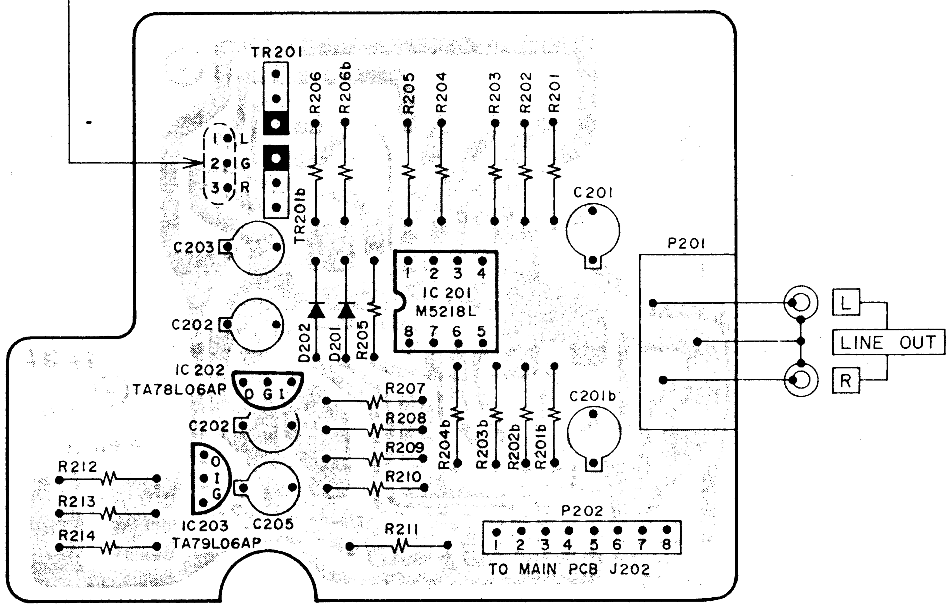
IC1,2......D3
IC3........B1
IC4........D5
IC5........D4
IC6........F4
IC7........B4
IC8........D1
IC9........C2
IC10.......C4
IC11.......AB1
IC12,13....A4
IC14.......AB3
IC15.......D4


TO SUB CODE OUT JACK J1
1 2 3 4 5 6 7 8
P106
L1
L2
L3
L4
L5
L6
L7
L8
1 2 3 4 5 6 7 8
J106
TO MAIN PCB P6

SUB CODE PCB
P2005C5070
(V MODEL ONLY)


3 R
2 G
1 L
W801
J202
HEAD PHONE

HEADPHONE PCB
P2011B501B


TR201
R206
R206b
R205
R204
R203
R202
R201
1 L
2 G
3 R
TR201b
C201
C203
P201
IC 201
M5218L
1 2 3 4
8 7 6 5
C202
D202
D201
R205
L
LINE OUT
R
IC 202
TA78L06AP
O G I
R207
R208
R209
R210
C202
C201b
R204b
R203b
R202b
R201b
R212
R213
R214
O
I
G
IC203
C205
TA79L06AP
R211
P202
1 2 3 4 5 6 7 8
TO MAIN PCB J202

HEADPHONE AMP PCB P2011B5010
(Models CD-A30II, CD-A3X ONLY)

注意 △の付された部品は、安全上重要部品です。交換の際は、指定部品以外は使用しないこと。

WARNING: △ INDICATES SAFETY CRITICAL COMPONENTS.
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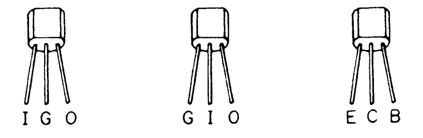

TA78L06AP TA79L06AP 2SC3383

B ■ ● ● = PNP TRANSISTOR

TR201, 201b ---- 2SC3383 (S, T)

I : IN
O : OUT
G : GND

B ● ● ● = NPN TRANSISTOR
B ■ ● ● = PNP TRANSISTOR

AKAI ELECTRIC CO., LTD.
12-14, 2-Chome, Higashi-Kojiya, Ohta-Ku, Tokyo, Japan
TEL Tokyo (742) 5111 CABLE HIFIAKAI TOKYO TELEX J26261
Printed No. 860512-G1-4000 Printed Date: June 6, 1986
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